

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 7-13-2005  
 Art Unit: 1752 Phone Number 302-1333 Serial Number: 101716-785  
 Mail Box and Bldg/Room Location: 9D66 Results Format Preferred (circle): PAPER DISK E-MAIL  
 (Chem.)

If more than one search is submitted, please prioritize searches in order of need.

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched.

Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and identify with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, and known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz. see B.T.B. JUL 15 RECD

Inventors (please provide full names): \_\_\_\_\_ Pat. & T.M. Office

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for the polymer of claim #1.

In case you need it,  
 (examples for the silsesquioxane backbone  
 polymer are shown in cl. #12 & 13)



(If you have any Q's,  
 plz. call me.)

Thanks!

## STAFF USE ONLY

Searcher: W/L  
 Searcher Phone #: \_\_\_\_\_  
 Searcher Location: \_\_\_\_\_  
 Date Searcher Picked Up: 7/29/05  
 Date Completed: 7/29/05  
 Searcher Prep & Review Time: 60  
 Clerical Prep Time: 30  
 Online Time: 60

## Type of Search

NA Sequence (#) \_\_\_\_\_  
 AA Sequence (#) \_\_\_\_\_  
 Structure (#) 2  
 Bibliographic \_\_\_\_\_  
 Litigation \_\_\_\_\_  
 Fulltext \_\_\_\_\_  
 Patent Family \_\_\_\_\_  
 Other \_\_\_\_\_

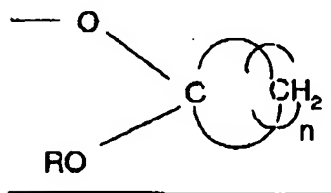
## Vendors and cost where applicable

STN 8 381-87  
 Dialog \_\_\_\_\_  
 Questel/Orbit \_\_\_\_\_  
 Dr.Link \_\_\_\_\_  
 Lexis/Nexis \_\_\_\_\_  
 Sequence Systems \_\_\_\_\_  
 WWW/Internet \_\_\_\_\_  
 Other (specify) \_\_\_\_\_

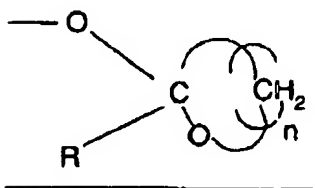
Application No. 10/715,785

**Listing of Claims:**

1. (Currently Amended) A resist composition, said composition comprising an acid-sensitive imaging polymer including a silsesquioxane backbone and a solubility inhibiting cyclic ketal pendant acid-labile moiety having a low activation energy for acid-catalyzed cleaving, wherein said cyclic ketal acid-labile moiety comprises a structure of the form



or



2f I need to submit two separate searches, please give me a call.!

where n is any integer from 2 to 15 and R is an alkyl or a halogenated alkyl, and wherein at least a portion of said imaging polymer is fluorinated.

2. (Original) The resist composition of claim 1, further comprising a radiation-sensitive acid generator.

3. (Original) The resist composition of claim 1, wherein said imaging polymer further comprises a pendant solubility promoting moiety.

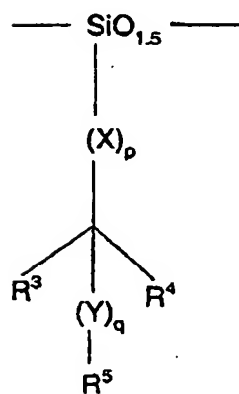
Application No. 10/716,785

4. (Original) The resist composition of claim 3, wherein said pendant solubility promoting moiety is selected from the group consisting of a hydroxyl, a fluoroalcohol, a carboxylic acid, an amino group, an imino group, a fluorinated imino group and a fluorinated amino group.
5. (Original) The resist composition of claim 1, wherein at least a portion of said solubility inhibiting pendant cyclic ketal acid-labile moiety is fluorinated.
6. (Canceled)
7. (Original) The resist composition of claim 1, wherein said cyclic ketal acid-labile moiety is selected from the group consisting of methoxycyclopropyl, ethoxycyclopropyl, butoxycyclohexyl, methoxycyclobutyl, ethoxycyclobutyl, methoxycyclopentyl, ethoxycyclopentyl, methoxycyclohexyl, ethoxycyclohexyl, propoxycyclohexyl, methoxycycloheptyl, methoxycyclooctyl, methoxynorbornyl and methoxyadamantyl.
8. (Original) The resist composition of claim 1, wherein said cyclic ketal acid-labile moiety is substituted.
9. (Original) The resist composition of claim 1, wherein said cyclic ketal acid-labile moiety is substituted with fluorine or a hydrophobic moiety selected from the group consisting of  $-\text{CF}_3$ ,  $-\text{CHF}_2$ ,  $-\text{CH}_2\text{F}$ ,  $-\text{CCl}_3$ ,  $-\text{CHCl}_2$  and  $-\text{CH}_2\text{Cl}$ , and  $-\text{Si}(\text{CH}_3)_3$ .
10. (Original) The resist composition of claim 3, wherein at least a portion of said solubility promoting moiety is fluorinated.

Application No. 10/716,785

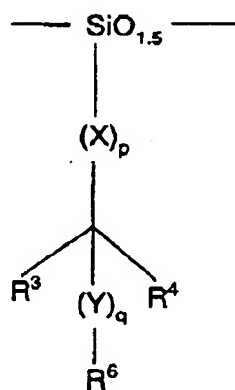
11. (Original) The resist composition of claim 1, wherein said silsesquioxane polymer has a weight average molecular weight of about 800 to 500,000.

12. (Original) The resist composition of claim 1, wherein said imaging polymer comprises a combination of monomeric units (II) and (III) described by the formulas:



(II)

and



(III)

in which

each  $\text{R}^3$  is independently selected from the group consisting of a hydrogen atom, a halogen atom, a linear alkyl, a branched alkyl, a cycloalkyl, a halogenated linear alkyl, a halogenated branched alkyl, a halogenated cycloalkyl, an aryl, a halogenated aryl, or any combination thereof,

each X is independently selected from the group consisting of an oxygen atom, a sulfur atom,  $\text{NR}^3$ , a linear alkyl, a branched alkyl, a cycloalkyl group, a halogenated linear alkyl, a halogenated branched alkyl, a halogenated cycloalkyl, an aryl group, or a halogenated aryl, wherein p is an integer having the value 1 or 0,

Application No. 10/716,785

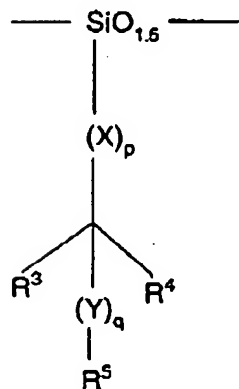
each Y is independently selected from the group consisting of a linear alkyl, a branched alkyl, a cycloalkyl group, a halogenated linear alkyl, a halogenated branched alkyl, a halogenated cycloalkyl, an aryl group, or a halogenated aryl, wherein q is an integer having the value 1 or 0,

each R<sup>4</sup> is independently selected from the group consisting of a fluorine atom, a fluorinated linear alkyl, a fluorinated branched alkyl, a fluorocycloalkyl, a fluoroaryl, or any combination thereof,

each R<sup>5</sup> is independently a solubility inhibiting cyclic ketal group, and

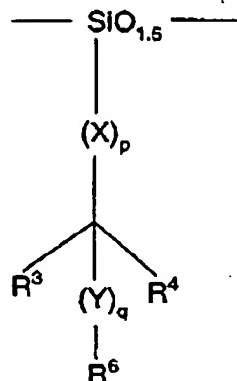
each R<sup>6</sup> is independently a solubility promoting group.

13. (Original) The resist composition of claim 1, wherein said imaging polymer comprises a combination of monomeric units (II) and (IV) or units (II) and (V), wherein the monomeric units (II) and (III) are described by the formulas:



(II)

and



(III)

in which

Application No. 10/716,785

each  $R^3$  is independently selected from the group consisting of a hydrogen atom, a halogen atom, a linear alkyl, a branched alkyl, a cycloalkyl, a halogenated linear alkyl, a halogenated branched alkyl, a halogenated cycloalkyl, an aryl, a halogenated aryl, or any combination thereof,

each X is independently selected from the group consisting of an oxygen atom, a sulfur atom,  $NR^3$ , a linear alkyl, a branched alkyl, a cycloalkyl group, a halogenated linear alkyl, a halogenated branched alkyl, a halogenated cycloalkyl, an aryl group, or a halogenated aryl, wherein p is an integer having the value 1 or 0,

each Y is independently selected from the group consisting of a linear alkyl, a branched alkyl, a cycloalkyl group, a halogenated linear alkyl, a halogenated branched alkyl, a halogenated cycloalkyl, an aryl group, or a halogenated aryl, wherein q is an integer having the value 1 or 0,

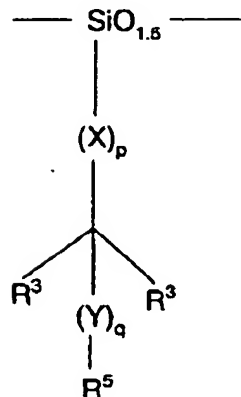
each  $R^4$  is independently selected from the group consisting of a fluorine atom, a fluorinated linear alkyl, fluorinated branched alkyl, a fluorocycloalkyl, a fluoroaryl, or any combination thereof,

each  $R^5$  is independently a solubility inhibiting cyclic ketal group, and

each  $R^6$  is independently a solubility promoting group; and

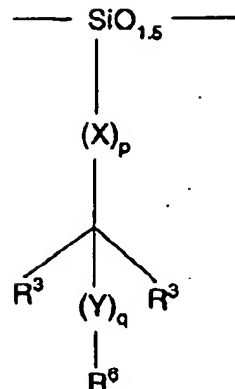
the monomeric units (IV) and (V) are described by the formulas:

Application No. 10/716,785



(IV)

and

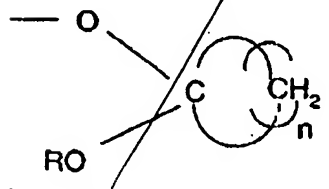


(V).

14. (Currently Amended) A method of forming a structure on a substrate, said method comprising the steps of:

providing a substrate;

applying a resist composition to said substrate to form a resist layer on said substrate, said resist composition comprising an acid-sensitive imaging polymer comprising a silsesquioxane backbone, and a solubility inhibiting pendant cyclic ketal acid-labile moiety having a low activation energy for acid-catalyzed cleaving, wherein said cyclic ketal acid-labile moiety comprises a structure of the form



or

=> fil reg

FILE 'REGISTRY' ENTERED AT 13:52:14 ON 29 JUL 2005

=> d his

FILE 'LREGISTRY' ENTERED AT 12:54:39 ON 29 JUL 2005

L1 STR

L2 STR

FILE 'REGISTRY' ENTERED AT 12:58:40 ON 29 JUL 2005

L3 42 S L1

L4 SCR 2043

L5 35 S L1 AND L4

L6 5 S L1 AND L2 AND L4

L7 STR L1

L8 15 S L7

L9 59 S L1 AND L2 AND L4 FUL

SAV L9 LEE785/A

FILE 'HCAPLUS' ENTERED AT 13:22:50 ON 29 JUL 2005

L10 1 S US20050106494/PN

SEL RN

FILE 'REGISTRY' ENTERED AT 13:23:29 ON 29 JUL 2005

L11 10 S E1-E10

L12 0 S L11 AND L9

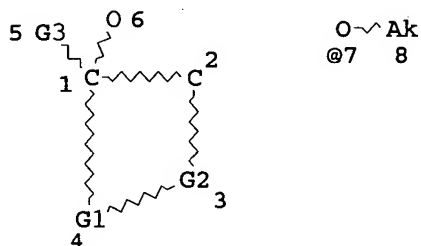
FILE 'HCAPLUS' ENTERED AT 13:26:11 ON 29 JUL 2005

L13 37 S L9

FILE 'REGISTRY' ENTERED AT 13:52:14 ON 29 JUL 2005

=> d que l13

L1 STR



REP G1=(0-1) O

REP G2=(1-5) C

VAR G3=AK/7

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

L2 STR



Si~O  
1 2

NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE  
L4 SCR 2043  
L9 59 SEA FILE=REGISTRY SSS FUL L1 AND L2 AND L4  
L13 37 SEA FILE=HCAPLUS ABB=ON PLU=ON L9

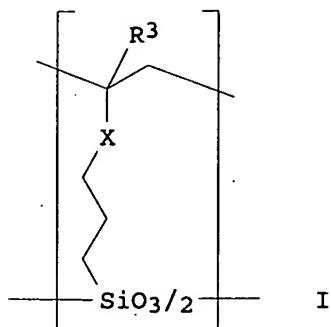
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FILE 'HCAPLUS' ENTERED AT 13:52:28 ON 29 JUL 2005

=> d l13 1-37 ibib abs hitstr hitind

L13 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2005:492569 HCAPLUS  
DOCUMENT NUMBER: 143:16513  
TITLE: Silicon-containing polymers for chemically  
amplified resists, and method for pattern  
formation  
INVENTOR(S): Hatakeyama, Jun; Nakajima, Atsuo  
PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 66 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE         |
|------------------------|------|----------|-----------------|--------------|
| JP 2005146131          | A2   | 20050609 | JP 2003-386228  | 2003<br>1117 |
| PRIORITY APPLN. INFO.: |      |          | JP 2003-386228  | 2003<br>1117 |

GI



AB The polymers have repeating units CR<sub>1</sub>(CO<sub>2</sub>R<sub>2</sub>)CH<sub>2</sub> and I (R<sub>1</sub>, R<sub>3</sub> = H, Me, F, trifluoromethyl, cyano, CH<sub>2</sub>CO<sub>2</sub>R<sub>6</sub>, CH<sub>2</sub>OR<sub>5</sub>; R<sub>6</sub> = H, C<sub>1</sub>-4 alkyl, acid-labile group; R<sub>5</sub> = H, C<sub>1</sub>-4 alkyl, acyl; R<sub>2</sub> = acid-labile group; X = CO<sub>2</sub>, O). The patterns are manufactured by applying chemical amplified pos. resists containing the polymers, acid generators, and organic solvents on substrates, heat treatment, exposure by irradiation of high-energy light at wavelength ≤300 nm or electron beam via a photomask, optionally heat treatment, and development. The patterns show high sensitivity and resolution, and improved O and Cl<sub>2</sub>/BCl<sub>3</sub> etching resistance.

IT 852533-52-9P, 2-Ethyl-2-adamantyl methacrylate-3-methacryloxypropyltriethoxysilane-3-oxo-2,7-dioxatricyclo[4.2.1.0<sup>4,8</sup>]-9-nonanyl methacrylate copolymer  
 852533-53-0P, 2-Ethyl-2-adamantyl methacrylate-3-methacryloxypropyltriethoxysilane copolymer  
 (silicon-containing polymers having acrylic and silsesquioxane repeating units for chemical amplified resists)

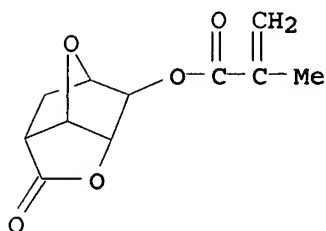
RN 852533-52-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with hexahydro-5-oxo-2,6-methanofuro[3,2-b]furan-3-yl 2-methyl-2-propenoate and 3-(triethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 274248-05-4

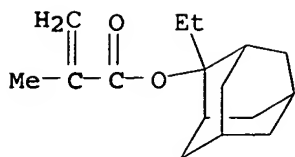
CMF C11 H12 O5



CM 2

CRN 209982-56-9

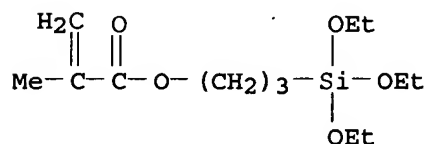
CMF C16 H24 O2



CM 3

CRN 21142-29-0

CMF C13 H26 O5 Si



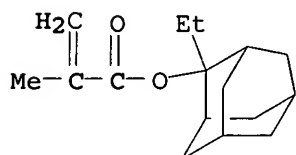
RN 852533-53-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 3-(triethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

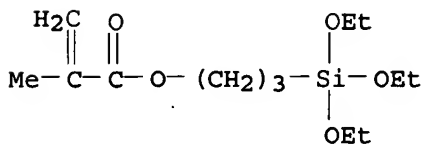
CMF C16 H24 O2



CM 2

CRN 21142-29-0

CMF C13 H26 O5 Si



IT 852533-54-1P, 2-Ethyl-2-adamantyl methacrylate-3-methacryloxypropyltriethoxysilane-2-methoxycarbonyl-5(6)-trimethoxysilylnorbornane-3-oxo-2,7-dioxatricyclo[4.2.1.0<sup>4,8</sup>]-9-

nonanyl methacrylate copolymer 852533-55-2P,  
 2-Ethyl-2-adamantyl methacrylate-3-methacryloxypropyltriethoxysila  
 ne-2-methoxycarbonyl-5(6)-trimethoxysilylnorbornane-3-oxo-2,7-  
 dioxatricyclo[4.2.1.0<sup>4,8</sup>]-9-nonanyl methacrylate-2-tert-  
 butoxycarbonyl-5(6)-trimethoxysilylnorbornane copolymer  
 852533-56-3P, 2-Ethyl-2-adamantyl methacrylate-3-  
 methacryloxypropyltriethoxysilane-2-methoxycarbonyl-5(6)-  
 trimethoxysilylnorbornane copolymer 852533-57-4P,  
 2-Ethyl-2-adamantyl methacrylate-3-methacryloxypropyltriethoxysila  
 ne-2-methoxycarbonyl-5(6)-trimethoxysilylnorbornane-  
 tetraethoxysilane copolymer

(silicon-containing polymers having acrylic and silsesquioxane  
 repeating units for chemical amplified resists)

RN 852533-54-1 HCAPLUS

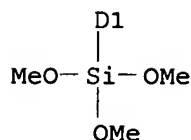
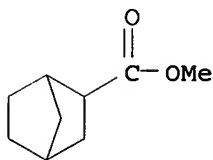
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(trimethoxysilyl)-  
 , methyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl  
 2-methyl-2-propenoate, hexahydro-5-oxo-2,6-methanofuro[3,2-b]furan-  
 3-yl 2-methyl-2-propenoate and 3-(triethoxysilyl)propyl  
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 802986-13-6

CMF C12 H22 O5 Si

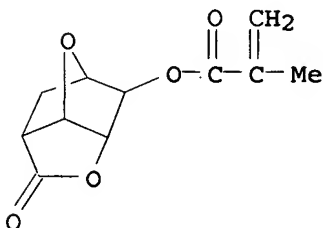
CCI IDS



CM 2

CRN 274248-05-4

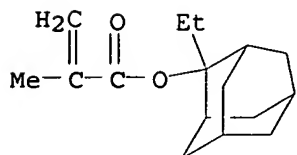
CMF C11 H12 O5



CM 3

CRN 209982-56-9

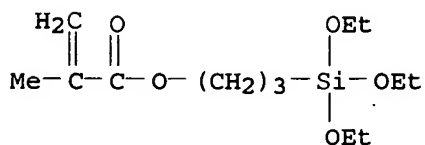
CMF C16 H24 O2



CM 4

CRN 21142-29-0

CMF C13 H26 O5 Si



RN 852533-55-2 HCAPLUS

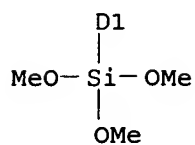
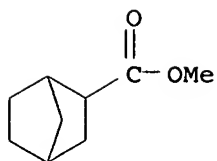
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(trimethoxysilyl)-, 1,1-dimethylethyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate, hexahydro-5-oxo-2,6-methanofuro[3,2-b]furan-3-yl 2-methyl-2-propenoate, methyl 5(or 6)-(trimethoxysilyl)bicyclo[2.2.1]heptane-2-carboxylate and 3-(triethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 802986-13-6

CMF C12 H22 O5 Si

CCI IDS

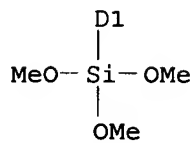
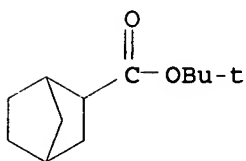


CM 2

CRN 365546-61-8

CMF C15 H28 O5 Si

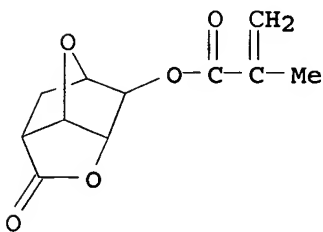
CCI IDS



CM 3

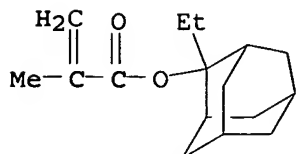
CRN 274248-05-4

CMF C11 H12 O5



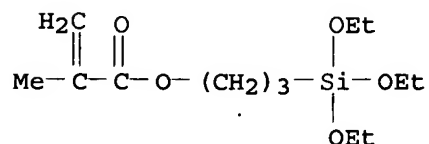
CM 4

CRN 209982-56-9  
CMF C16 H24 O2



CM 5

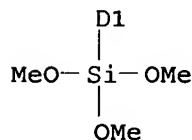
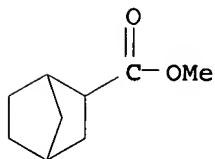
CRN 21142-29-0  
CMF C13 H26 O5 Si



RN 852533-56-3 HCAPLUS  
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(trimethoxysilyl)-  
methyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl  
2-methyl-2-propenoate and 3-(triethoxysilyl)propyl  
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

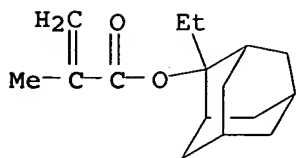
CRN 802986-13-6  
CMF C12 H22 O5 Si  
CCI IDS



CM 2

CRN 209982-56-9

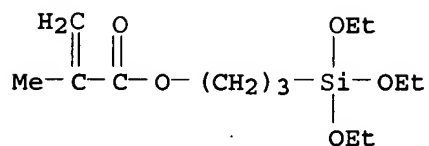
CMF C16 H24 O2



CM 3

CRN 21142-29-0

CMF C13 H26 O5 Si



RN 852533-57-4 HCAPLUS

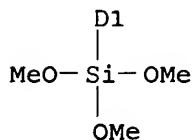
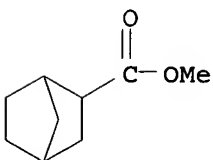
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(trimethoxysilyl)-, methyl ester, polymer with 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate, silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetraethyl ester and 3-(triethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 802986-13-6

CMF C12 H22 O5 Si

CCI IDS

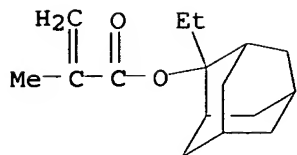


CM 2

CRN 209982-56-9

CMF C16 H24 O2

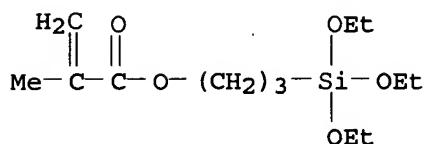




CM 3

CRN 21142-29-0

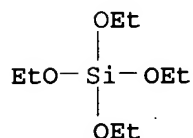
CMF C13 H26 O5 Si



CM 4

CRN 78-10-4

CMF C8 H20 O4 Si



IC ICM C08F008-42

ICS C08F230-08; C08G077-442; G03F007-039; G03F007-075;  
H01L021-027CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

Section cross-reference(s): 38

IT 852533-52-9P, 2-Ethyl-2-adamantyl methacrylate-3-  
methacryloxypropyltriethoxysilane-3-oxo-2,7-  
dioxatricyclo[4.2.1.04,8]-9-nonanyl methacrylate copolymer852533-53-0P, 2-Ethyl-2-adamantyl methacrylate-3-  
methacryloxypropyltriethoxysilane copolymer(silicon-containing polymers having acrylic and silsesquioxane  
repeating units for chemical amplified resists)IT 852533-54-1P, 2-Ethyl-2-adamantyl methacrylate-3-  
methacryloxypropyltriethoxysilane-2-methoxycarbonyl-5(6)-  
trimethoxysilylnorbornane-3-oxo-2,7-dioxatricyclo[4.2.1.04,8]-9-  
nonanyl methacrylate copolymer 852533-55-2P,  
2-Ethyl-2-adamantyl methacrylate-3-methacryloxypropyltriethoxysila  
ne-2-methoxycarbonyl-5(6)-trimethoxysilylnorbornane-3-oxo-2,7-  
dioxatricyclo[4.2.1.04,8]-9-nonanyl methacrylate-2-tert-  
butoxycarbonyl-5(6)-trimethoxysilylnorbornane copolymer  
852533-56-3P, 2-Ethyl-2-adamantyl methacrylate-3-

methacryloxypropyltriethoxysilane-2-methoxycarbonyl-5(6)-  
trimethoxysilylnorbornane copolymer 852533-57-4P,  
2-Ethyl-2-adamantyl methacrylate-3-methacryloxypropyltriethoxysila  
ne-2-methoxycarbonyl-5(6)-trimethoxysilylnorbornane-  
tetraethoxysilane copolymer

(silicon-containing polymers having acrylic and silsesquioxane  
repeating units for chemical amplified resists)

L13 ANSWER 2 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:445384 HCAPLUS

DOCUMENT NUMBER: 142:490395

TITLE: Photoimaging compositions with high  
sensitivity to excimer laser and small line  
edge roughness

INVENTOR(S): Nishimura, Isao; Shimokawa, Tsutomu; Sugiura,  
Makoto

PATENT ASSIGNEE(S): JSR Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 58 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| JP 2005134456 | A2   | 20050526 | JP 2003-367470  | 2003<br>1028 |

PRIORITY APPLN. INFO.:

JP 2003-367470

2003  
1028

AB The compns. comprise (A) resins having repeating units  
OSi(R1CO2CR23)O (R1 = C1-20 hydrocarbylene, C3-20 alicyclic  
hydrocarbylene; R2 = C1-4 alkyl, C4-20 alicyclic hydrocarbyl,  
etc.), (B) resins having repeating units CR32CR3R4(CCFaH3-aCFbH3-  
bOR5)c (R3 = H, F, Me, CF3; R4 = C1-20 (c + 1)-valent hydrocarbon  
group, C3-20 (c + 1)-valent alicyclic hydrocarbon group, may  
contain CO2 or O; R5 = H, monovalent acid-dissociable group; a, b  
= 0-3; a + b  $\geq$  1; c = 1-3), and (C) photoacid generators.

IT 851314-61-9P

(pos. photoresists with high sensitivity to excimer laser and  
small line edge roughness)

RN 851314-61-9 HCAPLUS

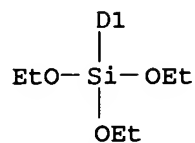
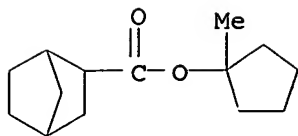
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-  
, 1-methylcyclopentyl ester, polymer with triethoxymethylsilane  
and 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -  
bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA  
INDEX NAME)

CM 1

CRN 727425-18-5

CMF C20 H36 O5 Si

CCI IDS

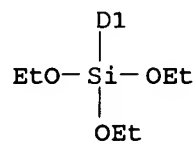
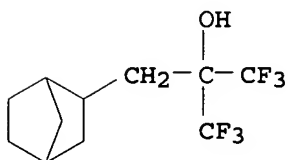


CM 2

CRN 365546-74-3

CMF C17 H28 F6 O4 Si

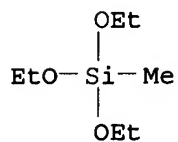
CCI IDS



CM 3

CRN 2031-67-6

CMF C7 H18 O3 Si



IC ICM G03F007-039

ICS C08F022-20; G03F007-075; H01L021-027; C08G077-14

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 365546-85-6P 430437-18-6P 851314-61-9P 851896-77-0P  
(pos. photoresists with high sensitivity to excimer laser and

small line edge roughness)

L13 ANSWER 3 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2005:428333 HCAPLUS  
 DOCUMENT NUMBER: 142:447820  
 TITLE: Efficient purification of polysiloxanes  
 INVENTOR(S): Nishimura, Isao; Chiba, Takashi; Hayashi, Akihiro  
 PATENT ASSIGNEE(S): JSR Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 33 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| JP 2005126592 | A2   | 20050519 | JP 2003-364632  | 2003<br>1024 |

PRIORITY APPLN. INFO.: JP 2003-364632  
 2003  
1024

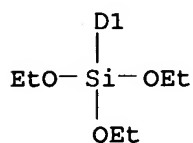
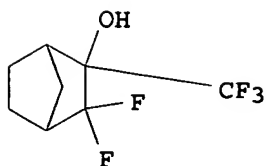
AB The purification method contains (A) mixing C1-3 mono- or polyhydric alcs. with polysiloxanes with Mw  $\geq 1000$  (as polystyrene) or their solns. in solvents (excluding C1-3 mono- or polyhydric alcs. and free OH-containing C1-10 alkyl ethers of C1-10 aliphatic polyhydric alcs.) with EtOH solubility  $\geq 100$  g/100 g at 25°, (B) adding  $\geq 1$  C5-10 hydrocarbons to the mixed solns. for phase separation, and (C) collecting the polysiloxanes from the phase of the C1-3 alcs. Alternatively, the polysiloxanes or their solns. are mixed with mixts. of water and compds. selected from C1-10 mono- or polyhydric alcs. and free OH-containing C1-10 alkyl ethers of C1-10 aliphatic polyhydric alcs. instead of with the C1-3 alcs. The polysiloxanes are useful for photoresists. Thus, mixing a 4-methyl-2-pentanone solution of methylcyclopentyl triethoxysilylnorbornanecarboxylate-bis(trifluoromethyl)hydroxyethyl-triethoxysilylnorbornane-methyltriethoxysilane copolymer with MeOH then with n-heptane, phase-separating, and collecting the lower phase gave the polysiloxane with yield 93% and purification degree >95%.

IT 727425-17-4P 851314-61-9P  
 (efficient purification of polysiloxanes by solvent extraction using alcs.)

RN 727425-17-4 HCAPLUS  
 CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-(triethoxysilyl)-, 1,1-dimethylethyl ester, polymer with 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol and triethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 727425-11-8  
 CMF C14 H23 F5 O4 Si  
 CCI IDS

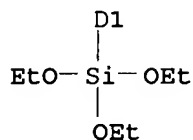
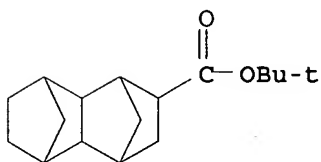


CM 2

CRN 365546-67-4

CMF C23 H40 O5 Si

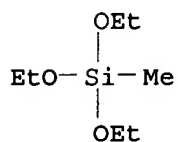
CCI IDS



CM 3

CRN 2031-67-6

CMF C7 H18 O3 Si



RN 851314-61-9 HCAPLUS

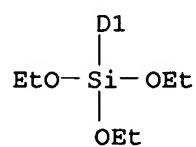
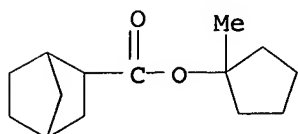
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-  
 , 1-methylcyclopentyl ester, polymer with triethoxymethylsilane  
 and 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -  
 bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA  
 INDEX NAME)

CM 1

CRN 727425-18-5

CMF C20 H36 O5 Si

CCI IDS

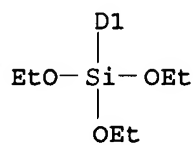
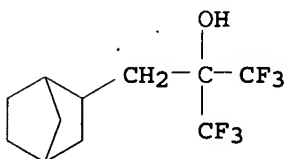


CM 2

CRN 365546-74-3

CMF C17 H28 F6 O4 Si

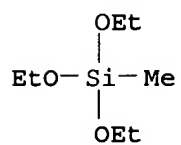
CCI IDS



CM 3

CRN 2031-67-6

CMF C7 H18 O3 Si



IC ICM C08G077-34  
ICS G03F007-075  
CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 74  
IT 727425-17-4P 851314-61-9P  
(efficient purification of polysiloxanes by solvent extraction using alcs.)

L13 ANSWER 4 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:283568 HCAPLUS

DOCUMENT NUMBER: 142:357093

TITLE: Enzyme-containing polysiloxane sol-gels and liquid detergents prepared thereby

INVENTOR(S): Becker, Nathaniel Todd; Bakul, Dave C.;  
Deshpande, Kiranmayi; Gebert, Mark S.;  
Mcauliffe, Joseph C.; Smith, Wyatt Charles

PATENT ASSIGNEE(S): Genencor International, Inc., USA; Southern Illinois University

SOURCE: PCT Int. Appl., 31 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| WO 2005028604 | A1   | 20050331 | WO 2004-US30990 | 2004<br>0917 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-504155P P 2003  
0919

AB An enzyme-containing sol-gel composition, wherein enzymes are stably entrapped within the gels and are released from the gels in responsive to an increase in environmental water percentage, is prepared from aminoalkylsilane precursors selected from bis(trialkoxysilane)amine, bis(trialkoxysilane)alkylenedi-amine, bis(dialkyldialkoxysilane)amine, and aminoalkyltrialkoxysilane, one or more alkoxysilane precursor, such as dialkyldialkoxysilane and alkyltrialkoxysilane, neg. charged silane precursor, such as trialkoxysilylalkyl succinic anhydride, disaccharides, polysaccharides, polyvinyl alc., polyethylene glycol, and polypropylene glycol. A liquid detergent, a liquid soap, or a shampoo formulation comprising the above

enzyme-entrapped sol-gel system, is also provided. Thus, 3-(triethoxysilyl)propylsuccinic anhydride, dimethyldimethoxysilane, and bis[3-(trimethoxysilyl)propyl]ethylene diamine were polymerized in the presence of protease to prepare a sol-gel for liquid detergent.

IT 848813-17-2

(enzyme-containing polysiloxane sol-gels for liquid detergents)

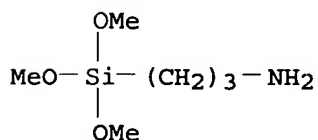
RN 848813-17-2 HCAPLUS

CN  $\alpha$ -D-Glucopyranoside,  $\beta$ -D-fructofuranosyl, polymer with dimethoxydimethylsilane, trimethoxymethylsilane and 3-(trimethoxysilyl)-1-propanamine (9CI) (CA INDEX NAME)

CM 1

CRN 13822-56-5

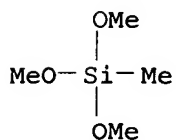
CMF C6 H17 N O3 Si



CM 2

CRN 1185-55-3

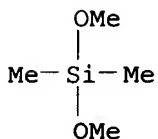
CMF C4 H12 O3 Si



CM 3

CRN 1112-39-6

CMF C4 H12 O2 Si



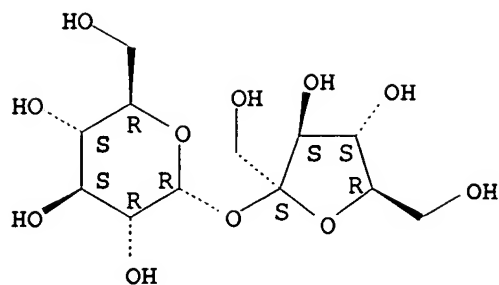
CM 4

CRN 57-50-1

CMF C12 H22 O11

Absolute stereochemistry.





IC ICM C11D003-20  
ICS C11D007-02; B01J013-00  
CC 46-6 (Surface Active Agents and Detergents)  
Section cross-reference(s): 7  
IT 9000-92-4, Amylase 9001-05-2, Catalase 9001-62-1, Lipase  
9001-92-7, Proteinase 9003-99-0, Peroxidase 9012-54-8,  
Cellulase 9014-01-1, Subtilisin 9032-75-1, Pectinase  
42613-30-9, Ligninase 60748-69-8, Mannanase 848813-17-2  
848813-18-3  
(enzyme-containing polysiloxane sol-gels for liquid detergents)  
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L13 ANSWER 5 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2005:98047 HCAPLUS  
DOCUMENT NUMBER: 142:186544  
TITLE: Fluorine-substituted alicyclic  
group-containing polysiloxanes and their  
radiation-sensitive resists  
INVENTOR(S): Chiba, Takashi; Shimokawa, Tsutomu; Hayashi,  
Akihiro; Itani, Toshio; Miyoshi, Yasuo;  
Furukawa, Takamitsu  
PATENT ASSIGNEE(S): JSR Ltd., Japan; Semiconductor Leading  
Technologies Inc.  
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE         |
|------------------------|------|----------|-----------------|--------------|
| JP 2005029742          | A2   | 20050203 | JP 2003-273289  | 2003<br>0711 |
| PRIORITY APPLN. INFO.: |      |          |                 | 2003<br>0711 |

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT

\*

AB The polysiloxanes, showing Mw 500-1,000,000 measured by GPC, have structural repeating units I and/or II, and III and/or IV [B = H, F; X1; X2 = H, C1-20 (halogenated) hydrocarbyl, halo, amino; m, n = 0, 1; p = 1-10]. The resists contain alkali-insol.

polysiloxanes bearing acid-dissociable groups and becoming alkali-soluble upon dissociation of the groups chosen from the aforementioned polysiloxanes, and photoacid generators. The resists show good transparency to excimer lasers and coating property, and produce high-resolution images.

IT 830327-89-4P

(fluorine-substituted alicyclic group-containing polysiloxanes for radiation-sensitive resists showing good transparency to excimer laser)

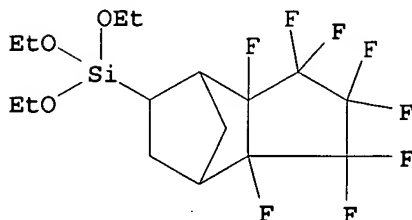
RN 830327-89-4 HCAPLUS

CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol, triethoxy(1,1,2,2,3,3,3a,7a-octafluorooctahydro-4,7-methano-1H-inden-5-yl)silane and triethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 778593-48-9

CMF C16 H22 F8 O3 Si

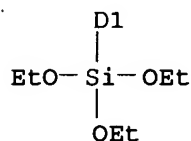
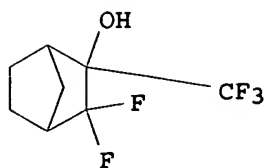


CM 2

CRN 727425-11-8

CMF C14 H23 F5 O4 Si

CCI IDS

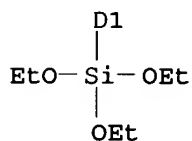
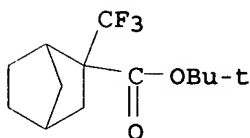


CM 3

CRN 474559-06-3

CMF C19 H33 F3 O5 Si

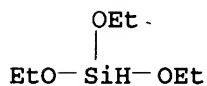
CCI IDS



CM 4

CRN 998-30-1

CMF C6 H16 O3 Si



IC ICM C08G077-24

ICS G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 29, 35, 38

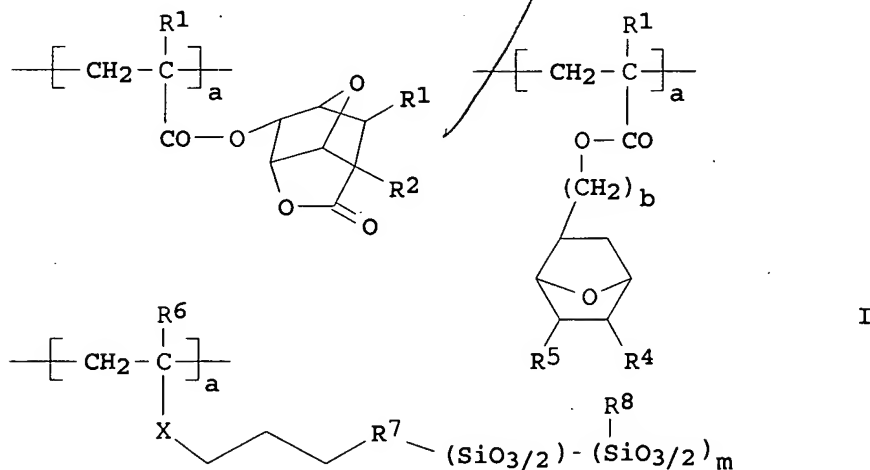
IT 830327-89-4P

(fluorine-substituted alicyclic group-containing polysiloxanes for radiation-sensitive resists showing good transparency to excimer laser)

**PATENT INFORMATION:**

JP 2003-174894

GI



USHA SHRESTHA EIC 1700 REM 4B28

Cl-4 acyl] and other repeating units that increase alkali solubility of the polymers in the presence of acids. The photolithog. may involve etching with O plasma or halogen gases containing Cl or Br.

IT 819837-23-5P

(acrylic polymers having oxonorbornane and polyhedral oligosilsesquioxane pendants for pos. photoresists with high resolution and suppressed line edge roughness)

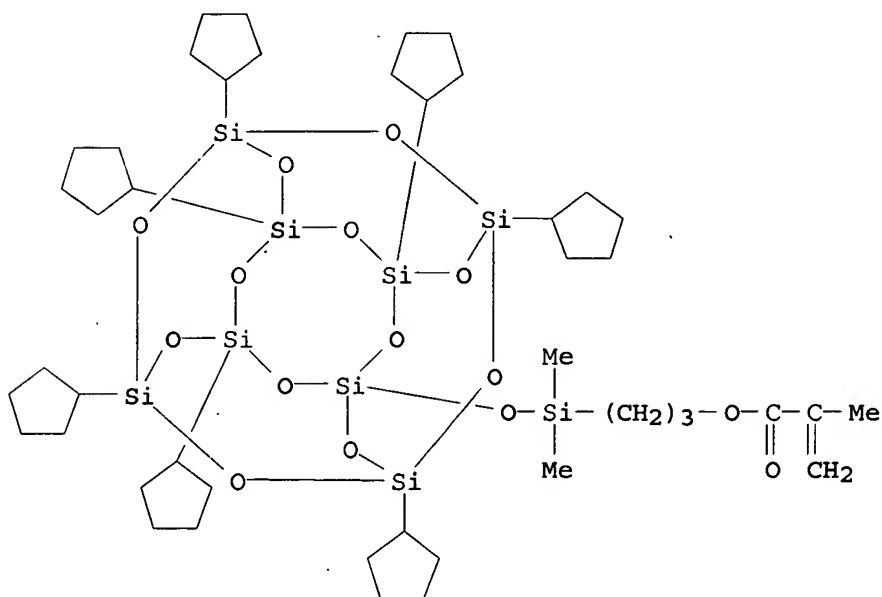
RN 819837-23-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 3-[[[(heptacyclopentylpentacyclo[9.5.1.1<sup>3,9</sup>.15.17.13]octasiloxanyl)oxy]dimethylsilyl]propyl 2-methyl-2-propenoate and hexahydro-5-oxo-2,6-methanofuro[3,2-b]furan-3-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 312693-41-7

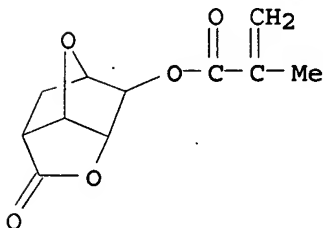
CMF C44 H80 O15 Si9



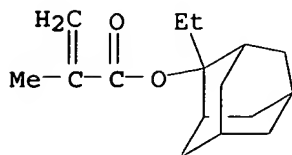
CM 2

CRN 274248-05-4

CMF C11 H12 O5



CM 3

CRN 209982-56-9  
CMF C16 H24 O2

IC ICM C08F230-08  
ICS G03F007-039; G03F007-075  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38  
IT 819837-18-8P 819837-20-2P 819837-22-4P 819837-23-5P  
819837-25-7P 819837-27-9P 819837-29-1P 819837-31-5P  
819837-32-6P 819837-34-8P  
(acrylic polymers having oxonorbornane and polyhedral oligosilsesquioxane pendants for pos. photoresists with high resolution and suppressed line edge roughness)

L13 ANSWER 7 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2004:1036753 HCAPLUS  
DOCUMENT NUMBER: 142:30014  
TITLE: Silicon-containing polymer, resist composition and patterning process  
INVENTOR(S): Hatakeyama, Jun; Takeda, Takanobu  
PATENT ASSIGNEE(S): Japan  
SOURCE: U.S. Pat. Appl. Publ., 38 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE              |
|------------------------|------|----------|-----------------|-------------------|
| US 2004242821          | A1   | 20041202 | US 2004-853783  | 2004<br>0526      |
| JP 2004352743          | A2   | 20041216 | JP 2003-148656  | 2003<br>0527      |
| PRIORITY APPLN. INFO.: |      |          | JP 2003-148656  | A<br>2003<br>0527 |

AB Novel silicon-containing polymers are provided comprising recurring units having a POSS pendant and units which improve alkali solubility under the action of an acid. Resist compns. comprising the polymers are sensitive to high-energy radiation and have a high sensitivity and resolution at a wavelength of up to 300 nm and improved resistance to oxygen plasma etching.

IT 802917-24-4P

(silicon-containing polymer, resist composition and patterning process)

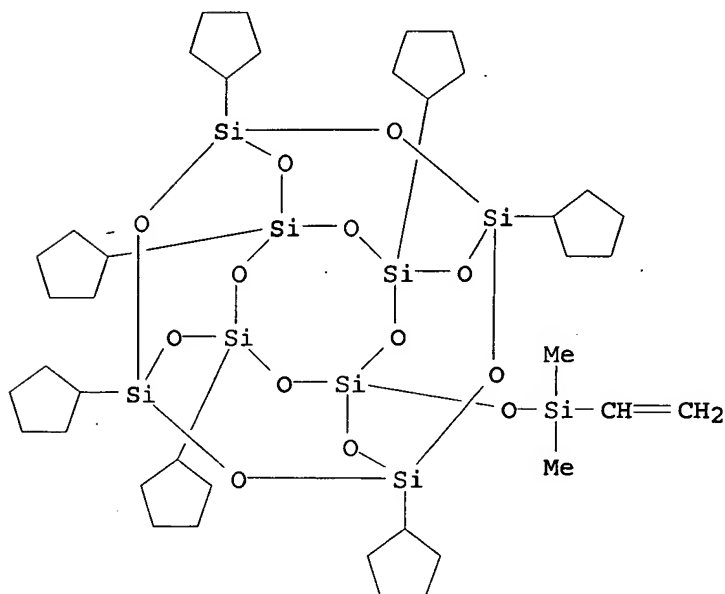
RN 802917-24-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with heptacyclopentyl[(ethenyldimethylsilyl)oxy]pentacyclo[9.5.1.1<sup>3,9</sup>.1<sup>5,15</sup>.1<sup>7,13</sup>]octasiloxane and methyl ethenesulfonate (9CI) (CA INDEX NAME)

CM 1

CRN 312693-40-6

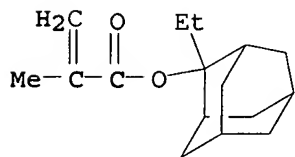
CMF C39 H72 O13 Si9



CM 2

CRN 209982-56-9

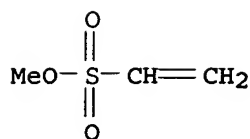
CMF C16 H24 O2



CM 3

CRN 1562-31-8

CMF C3 H6 O3 S



IC ICM G03F007-004  
 ICS C08F122-04; C08F222-04  
 INCL 526250000; 430270100; 430322000; 430330000; 526271000; 526279000  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 38  
 IT 802917-18-6P 802917-19-7P 802917-20-0P 802917-21-1P  
 802917-22-2P 802917-23-3P 802917-24-4P 802917-25-5P  
 (silicon-containing polymer, resist composition and patterning process)

L13 ANSWER 8 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:1014396 HCAPLUS

DOCUMENT NUMBER: 142:29994

TITLE: Polymer compound, positive-working chemical  
 amplification resist material containing  
 polysilsesquioxane having hydroxyindane  
 pendant group, and method of patterning using  
 the same

INVENTOR(S): Hatakeyama, Jun; Nakajima, Atsuo

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 54 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| JP 2004331854 | A2   | 20041125 | JP 2003-131084  | 2003<br>0509 |

PRIORITY APPLN. INFO.: JP 2003-131084

2003  
0509

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT  
 \*

AB Disclosed is the polymer compound which contains a repeating unit I  
 (R1 = hydroxy, acid unstable group; m = 1-4; and  
 $1 \leq x \leq 1.5$ ). In addition to I, the polymer compound  
 contains II. Further, in addition to I, the polymer compound contains  
 III ( $1 \leq y \leq 1.5$ ). Further in addition to I, the compound  
 contains IV (R3 = acid unstable group; R4,5 = H, substituent; and  
 n = 1, 2). Also disclosed is the plasma etching using O2 or a gas



containing Cl or Br as an etchant for patterning. For an exposure, UV light or an electron beam may be used.

IT 800397-95-9

(pos.-working chemical amplification resist material containing polysilsesquioxane having hydroxyindane pendant group)

RN 800397-95-9 HCAPLUS

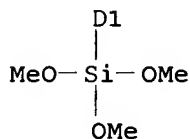
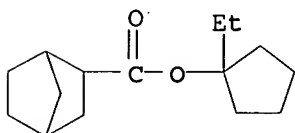
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(trimethoxysilyl)-, 1-ethylcyclopentyl ester, polymer with 2,3-dihydro-2(or 3)-(trimethoxysilyl)-1H-inden-5-ol (9CI) (CA INDEX NAME)

CM 1

CRN 800397-94-8

CMF C18 H32 O5 Si

CCI IDS

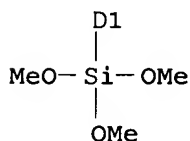
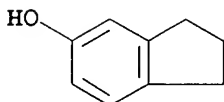


CM 2

CRN 800397-90-4

CMF C12 H18 O4 Si

CCI IDS



IC ICM C08G077-14

ICS G03F007-039; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38

IT 800397-91-5 800397-92-6 800397-95-9

(pos.-working chemical amplification resist material containing polysilsesquioxane having hydroxyindane pendant group)

L13 ANSWER 9 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:995698 HCAPLUS

DOCUMENT NUMBER: 141:429658

TITLE: Photoacid generators for chemically amplified resist compositions and patterning process

INVENTOR(S): Ohsawa, Youichi; Kobayashi, Katsuhiro; Kaneko, Tatsushi

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 29 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

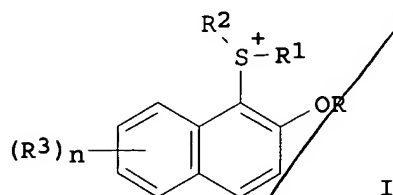
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE              |
|------------------------|------|----------|-----------------|-------------------|
| US 2004229162          | A1   | 20041118 | US 2004-842719  | 2004<br>0511      |
| JP 2004334060          | A2   | 20041125 | JP 2003-132523  | 2003<br>0512      |
| PRIORITY APPLN. INFO.: |      |          | JP 2003-132523  | A<br>2003<br>0512 |

OTHER SOURCE(S): MARPAT 141:429658  
GI



AB Disclosed are photoacid generators of the general formula I (R1, R2 = alkyl, R1 and R2, taken together, may form a C4-6-ring structure with sulfur; R = H, alkyl; R3 = H, alkyl, alkoxy, nitro; n = 1-6; and Y- = alkylsulfonate, arylsulfonate, bisalkylsulfonylimide or trisalkylsulfonylmethide). Chemical amplified resist comps. comprising the inventive photoacid generators have improved resolution, thermal stability, storage stability and minimized line edge roughness.

IT 795311-98-7

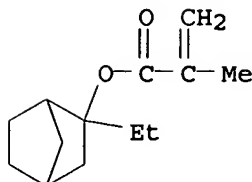
(photoresist resin; photoacid generators for chemical amplified resist comps. and patterning process)

RN 795311-98-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethylbicyclo[2.2.1]hept-2-yl ester, polymer with ethenylpentamethyldisiloxane and 2,5-furandione (9CI)  
(CA INDEX NAME)

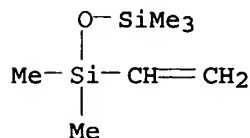
CM 1

CRN 330595-98-7  
 CMF C13 H20 O2



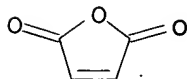
CM 2

CRN 1438-79-5  
 CMF C7 H18 O Si2



CM 3

CRN 108-31-6  
 CMF C4 H2 O3



IC ICM G03C001-76

INCL 430270100; 430311000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)

Section cross-reference(s): 38

|    |             |             |             |             |
|----|-------------|-------------|-------------|-------------|
| IT | 155040-27-0 | 158593-28-3 | 177034-75-2 | 200808-68-0 |
|    | 301153-46-8 | 326925-68-2 | 330596-02-6 | 336620-26-9 |
|    | 485819-00-9 | 485819-02-1 | 490040-72-7 | 595558-21-7 |
|    | 601520-54-1 | 601520-57-4 | 601520-61-0 | 601520-62-1 |
|    | 601520-65-4 | 635715-39-8 | 795311-87-4 | 795311-88-5 |
|    | 795311-89-6 | 795311-90-9 | 795311-92-1 | 795311-93-2 |
|    | 795311-95-4 | 795311-97-6 | 795311-98-7 | 795311-99-8 |

(photoresist resin; photoacid generators for chemical amplified  
 resist compns. and patterning process)

L13 ANSWER 10 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:816602 HCAPLUS

DOCUMENT NUMBER: 141:322563

TITLE: Polysiloxane substituted with blocked acidic group and photocurable composition for formation of pattern  
 INVENTOR(S): Takahashi, Hideyuki; Ishizeki, Kenji  
 PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE      |
|---------------|------|----------|-----------------|-----------|
| JP 2004277493 | A2   | 20041007 | JP 2003-68215   | 2003 0313 |

PRIORITY APPLN. INFO.: JP 2003-68215  
 2003 0313

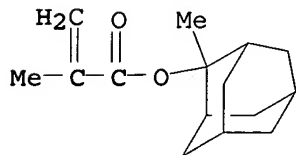
AB The polymer has polysiloxane structure (SiR<sub>1</sub>R<sub>2</sub>O)<sub>n</sub>SiR<sub>1</sub>R<sub>2</sub>R<sub>3</sub> [I; R<sub>1</sub>, R<sub>2</sub> = H, (cyclo)alkyl, aryl; R<sub>3</sub> = H, C<sub>1</sub>-10 organic group; n = 1-200] and 1-95 weight% of blocked acidic substituents. The polysiloxane may be substituted with fluoroalkyl on ≥2 H. The photocurable composition contains the polysiloxane, another polymer, and a photosensitive acid-generating agent. The another polymer is substituted with blocked acidic groups and is free from structure I and from I whose ≥2 H are replaced by F-substituted C<sub>≤20</sub> alkyl. The composition is useful for a precisely patterned mask for preparation of elec. circuits, which shows enhanced ink repellency.

IT 763105-69-7P  
 (polysiloxane substituted with blocked acidic group for photocurable composition for formation of ink-repellent pattern)

RN 763105-69-7 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with α-[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]-ω-[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)] and 3,3,4,4,5,5,6,6,6-nonafluorohexyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

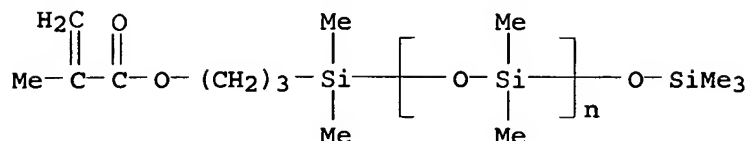
CM 1

CRN 177080-67-0  
 CMF C15 H22 O2



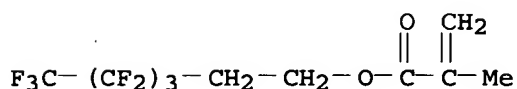
CM 2

CRN 123109-42-2  
 CMF (C2 H6 O Si)<sub>n</sub> C12 H26 O3 Si2  
 CCI PMS



CM 3

CRN 1799-84-4  
 CMF C10 H9 F9 O2



IC ICM C08F290-06  
 ICS G03F007-039; G03F007-075; H01L021-027; C08G077-42  
 CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38  
 IT 79-41-4DP, Methacrylic acid, polymer with polysiloxane methacrylate and fluoroalkyl methacrylate 2144-53-8DP, polymer with polysiloxane methacrylate and methacrylic acid 177080-67-0DP, 2-Methyl-2-adamantyl methacrylate, polymer with polysiloxane methacrylate and fluoroalkyl methacrylate 763105-69-7P  
 (polysiloxane substituted with blocked acidic group for photocurable composition for formation of ink-repellent pattern)

L13 ANSWER 11 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:609279 HCAPLUS

DOCUMENT NUMBER: 141:148104

TITLE: Fluorinated norbornene compounds, silicon-containing derivatives of them, polysiloxanes from them, and radiation-sensitive compositions containing them

INVENTOR(S): Chiba, Takashi; Shimokawa, Tsutomu; Hayashi, Akihiro; Sugie, Norihiko

PATENT ASSIGNEE(S): JSR Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 53 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|------|
| JP 2004210771 | A2   | 20040729 | JP 2003-420199  |      |

USHA SHRESTHA EIC 1700 REM 4B28

PRIORITY APPLN. INFO.:

JP 2002-365297

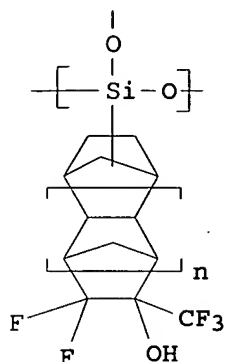
A

2003  
12172002  
1217

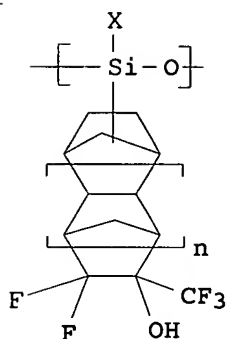
OTHER SOURCE(S):

MARPAT 141:148104

GI



I



II

AB The compns., useful for photoresists with good sensitivity to excimer lasers, resolution, and dry-etching resistance, contain the polysiloxanes (Mw 500-1,000,000, which are alkali-insol. but become alkali-soluble by dissociation of acid-labile groups) having units I and/or II [n = 0, 1; X = H, Cl-20 (halogenated) hydrocarbyl, halo, amino] and radiation-sensitive photoacid generators.

IT 727425-13-0P 727425-14-1P 727425-16-3P  
727425-17-4P 727425-19-6P 727425-20-9P  
727425-22-1P

(radiation-sensitive photoresists containing polysiloxanes bearing fluorinated norbornene groups with good sensitivity, resolution, and dry etching resistance)

RN 727425-13-0 HCAPLUS

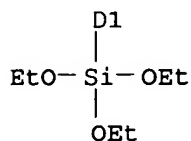
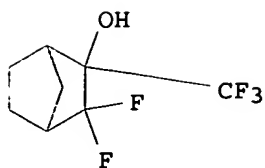
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol (9CI) (CA INDEX NAME)

CM 1

CRN 727425-11-8

CMF C14 H23 F5 O4 Si

CCI IDS

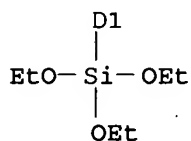
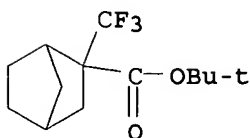


CM 2

CRN 474559-06-3

CMF C19 H33 F3 O5 Si

CCI IDS



RN 727425-14-1 HCAPLUS

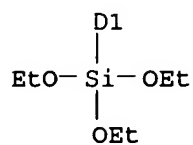
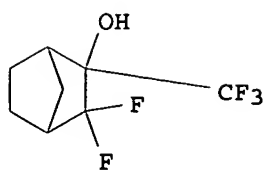
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol and 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 727425-11-8

CMF C14 H23 F5 O4 Si

CCI IDS

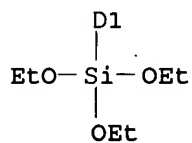
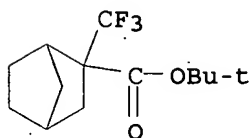


CM 2

CRN 474559-06-3

CMF C19 H33 F3 O5 Si

CCI IDS



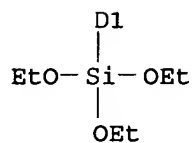
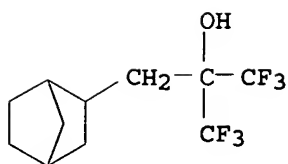
CM 3

CRN 365546-74-3

CMF C17 H28 F6 O4 Si

CCI IDS





RN 727425-16-3 HCAPLUS

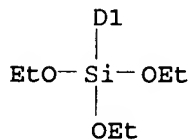
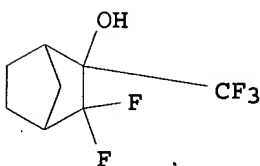
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol and triethoxy[5,5,6(or 5,6,6)-trifluoro-6(or 5)-(heptafluoropropoxy)bicyclo[2.2.1]hept-2-yl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 727425-11-8

CMF C14 H23 F5 O4 Si

CCI IDS

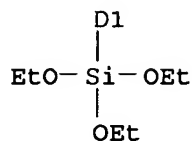
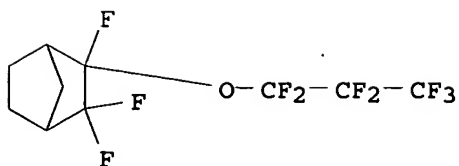


CM 2

CRN 677308-22-4

CMF C16 H22 F10 O4 Si

CCI IDS

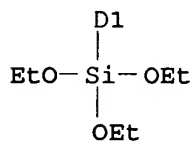
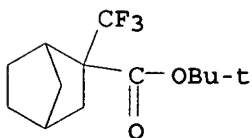


CM 3

CRN 474559-06-3

CMF C19 H33 F3 O5 Si

CCI IDS



RN 727425-17-4 HCAPLUS

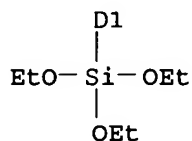
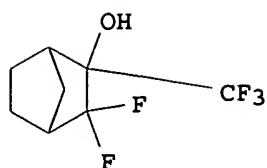
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-(triethoxysilyl)-, 1,1-dimethylethyl ester, polymer with 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol and triethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 727425-11-8

CMF C14 H23 F5 O4 Si

CCI IDS

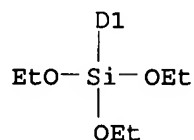
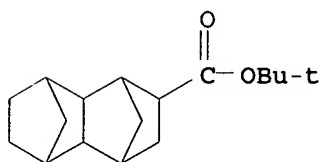


CM 2

CRN 365546-67-4

CMF C23 H40 O5 Si

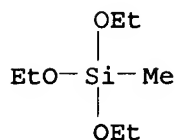
CCI IDS



CM 3

CRN 2031-67-6

CMF C7 H18 O3 Si



RN 727425-19-6 HCAPLUS

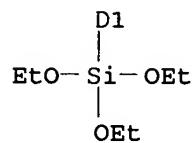
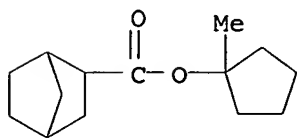
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-, 1-methylcyclopentyl ester, polymer with 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol and triethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 727425-18-5

CMF C20 H36 O5 Si

CCI IDS

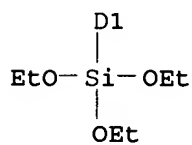
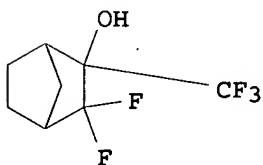


CM 2

CRN 727425-11-8

CMF C14 H23 F5 O4 Si

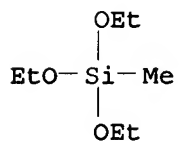
CCI IDS



CM 3

CRN 2031-67-6

CMF C7 H18 O3 Si



RN 727425-20-9 HCAPLUS

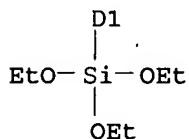
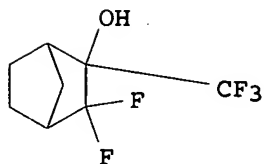
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-, 1,1-dimethylethyl ester, polymer with 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]heptan-2-ol and triethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 727425-11-8

CMF C14 H23 F5 O4 Si

CCI IDS

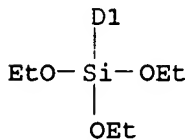
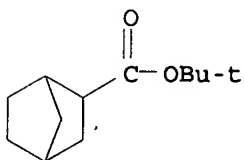


CM 2

CRN 365546-63-0

CMF C18 H34 O5 Si

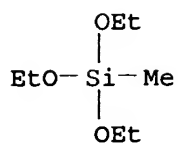
CCI IDS



CM 3

CRN 2031-67-6

CMF C7 H18 O3 Si



RN 727425-22-1 HCAPLUS

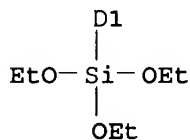
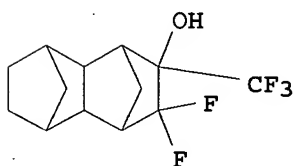
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-  
2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with  
3,3-difluorodecahydro-6(or 7)-(triethoxysilyl)-2-(trifluoromethyl)-  
1,4:5,8-dimethanonaphthalen-2-ol and 5(or 6)-(triethoxysilyl)-  
 $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-  
ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 727425-12-9

CMF C19 H29 F5 O4 Si

CCI IDS

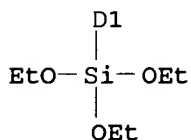
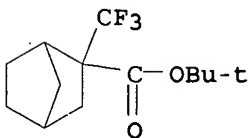


CM 2

CRN 474559-06-3

CMF C19 H33 F3 O5 Si

CCI IDS

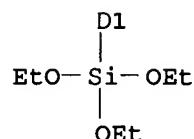
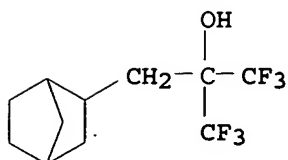


CM 3

CRN 365546-74-3

CMF C17 H28 F6 O4 Si

CCI IDS



IC ICM C07F007-18  
 ICS C07C035-52; C08G077-24; G03F007-039; G03F007-075; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 24, 38  
 IT 727425-13-0P 727425-14-1P 727425-16-3P  
 727425-17-4P 727425-19-6P 727425-20-9P  
 727425-22-1P  
 (radiation-sensitive photoresists containing polysiloxanes bearing  
 fluorinated norbornene groups with good sensitivity, resolution,  
 and dry etching resistance)

L13 ANSWER 12 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:203439 HCAPLUS

DOCUMENT NUMBER: 140:261399

TITLE: Low silicon-outgassing resist for bilayer  
lithographyINVENTOR(S): Khojasteh, Mahmoud M.; Kwong, Rane W.; Chen,  
Kuang-Jung; Varanasi, Pushkara Rao; Allen,  
Robert D.; Brock, Phillip; Houle, Frances;  
Sooriyakumaran, Ratnam

PATENT ASSIGNEE(S): International Business Machines Corp., USA

SOURCE: U.S. Pat. Appl. Publ., 7 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE          |
|---------------|------|----------|-----------------|---------------|
| US 2004048187 | A1   | 20040311 | US 2002-241937  | 2002.<br>0911 |

US 6770419  
WO 2004068243

B2 20040803  
A1 20040812

WO 2003-US28770

2003  
0911

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,  
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,  
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,  
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,  
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,  
UG, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,  
DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,  
PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG

EP 1546813

A1 20050629

EP 2003-815294

2003  
0911

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,  
EE, HU, SK

PRIORITY APPLN. INFO.:

US 2002-241937

A

2002  
0911

WO 2003-US28770

W

2003  
0911

AB The silicon-containing resist comps. which have low silicon  
outgassing and high resolution lithog. performance, especially in bilayer  
or multilayer lithog. applications using 193 nm or shorter  
wavelength imaging radiation are enabled by the presence of an  
imaging polymer having silicon-containing, non-acid-labile pendant  
groups. The resist comps. of the invention are preferably  
further characterized by the substantial absence of silicon-containing  
acid-labile moieties.

IT 669067-95-2P

(low silicon-outgassing resist for bilayer lithog.)

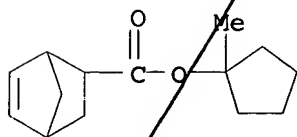
RN 669067-95-2 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-methylcyclopentyl  
ester, polymer with 3-ethenyl-1,1,1,3,5,5,5-heptamethyltrisiloxane  
and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 369648-89-5

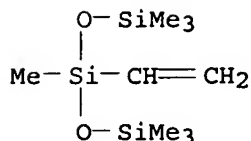
CMF C14 H20 O2



CM 2

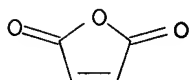


CRN 5356-85-4  
CMF C9 H24 O2 Si3



CM 3

CRN 108-31-6  
CMF C4 H2 O3



IC ICM G03F007-038  
ICS G03F007-38  
INCL 430270100; 430313000; 430330000; 430905000  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
IT 669067-94-1P **669067-95-2P**  
(low silicon-outgassing resist for bilayer lithog.)  
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L13 ANSWER 13 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2004:76052 HCAPLUS  
DOCUMENT NUMBER: 140:112703  
TITLE: vulcanizable fluoropolyether compositions with  
high transparency and good water, oil,  
chemical and weather resistance and rubber  
article  
INVENTOR(S): Koike, Noriyuki; Matsuda, Takashi; Sakano,  
Yasunori  
PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan  
SOURCE: Eur. Pat. Appl., 14 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE         |
|------------|------|----------|-----------------|--------------|
| EP 1384741 | A1   | 20040128 | EP 2003-254592  | 2003<br>0722 |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,

USHA SHRESTHA EIC 1700 REM 4B28

EE, HU, SK  
 JP 2004051834 A2 20040219 JP 2002-212658 2002  
 0722  
 US 2004034135 A1 20040219 US 2003-621389 2003  
 0718  
 PRIORITY APPLN. INFO.: JP 2002-212658 A 2002  
 0722

AB The composition comprises (A) a fluoropolyether compound containing alkenyl radicals in concentration  $3 \times 10^{-3}$  mol/g and having fluorine content  $\geq 40\%$ , (B) a curing agent containing a fluorinated organosilicon compound  $[H(R)2SiO_{1/2}]_n + 2[RfSiO_{3/2}]_n$  ( $R = C1-3$  alkyl;  $Rf =$  partially fluorinated  $C3-16$  alkyl, partially fluorinated ether bond-containing monovalent saturated radical;  $n = 1.5-6.0$ ) which is fully soluble in the fluoropolyether compound, and (C) a hydrosilylation catalyst,. The rubber composition is vulcanizable at room temperature or under heat and has low viscosity, transparency, and improved water and oil repellency, and solvent, chemical and weather resistance.

IT 648414-70-4P

(rubber; vulcanizable fluoropolyether compns. with high transparency and good water, oil, chemical and weather resistance)

RN 648414-70-4 HCAPLUS

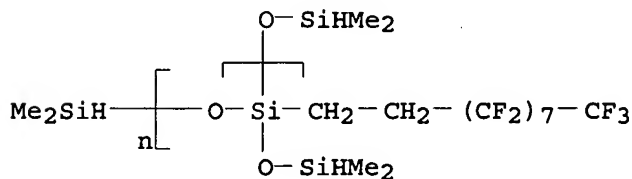
CN Cyclohexanol, 1-ethynyl-, polymer with  $\alpha$ -(dimethylsilyl)- $\omega$ -[[dimethylsilyl]oxy]poly[oxy[1-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heptafluorodecyl)-3,3-dimethyldisiloxanylidene]] and  $\alpha,\alpha'$ -(1,1,2,2-tetrafluoro-1,2-ethanediyl)bis[ $\omega$ -[[[3-(ethenyldimethylsilyl)phenyl]methylamino]carbonyl]oxy]poly[oxy[tri fluoro(trifluoromethyl)-1,2-ethanediyl]]] (9CI) (CA INDEX NAME)

CM 1

CRN 648414-69-1

CMF (C12 H11 F17 O2 Si2) $_n$  C4 H14 O Si2

CCI PMS



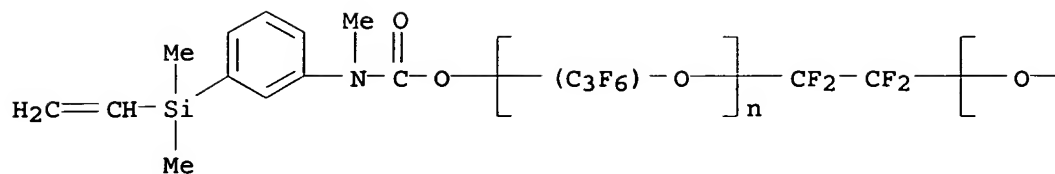
CM 2

CRN 648414-68-0

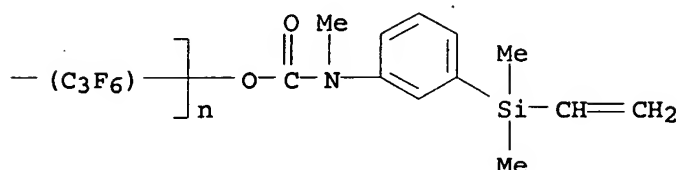
CMF (C3 F6 O) $_n$  (C3 F6 O) $_n$  C26 H32 F4 N2 O4 Si2

CCI IDS, PMS

PAGE 1-A



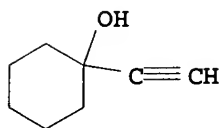
PAGE 1-B



CM 3

CRN 78-27-3

CMF C8 H12 O



IC ICM C08G065-00

ICS C08G065-336; C08L071-02

CC 39-15 (Synthetic Elastomers and Natural Rubber)

IT 648414-70-4P

(rubber; vulcanizable fluoropolyether compns. with high transparency and good water, oil, chemical and weather resistance)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 14 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:59649 HCAPLUS

DOCUMENT NUMBER: 140:136424

TITLE: Silicon-containing polymer, photoresist composition and patterning process

INVENTOR(S): Hatakeyama, Jun; Takeda, Takanobu; Ishihara, Toshinobu

PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan

SOURCE: U.S. Pat. Appl. Publ., 36 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

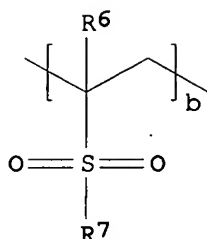
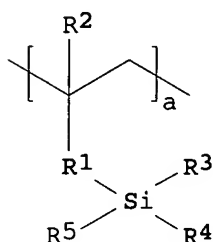
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE              |
|------------------------|------|----------|-----------------|-------------------|
| -----                  | ---- | -----    | -----           |                   |
| US 2004013980          | A1   | 20040122 | US 2003-611261  | 2003<br>0702      |
| US 6919161             | B2   | 20050719 |                 |                   |
| JP 2004083873          | A2   | 20040318 | JP 2003-180392  | 2003<br>0625      |
| PRIORITY APPLN. INFO.: |      |          | JP 2002-192910  | A<br>2002<br>0702 |

GI



I

*Not silsesquioxane*

AB The present invention relates to silicon-containing polymers comprising recurring units of I (R1 = single bond, alkylene; R2 = hydrogen, alkyl; R3-5 = alkyl, haloalkyl, aryl or silicon-containing group; R6 = hydrogen, Me, cyano or -C(=O)OR8; R8 = hydrogen, alkyl, acid labile group; R7 = alkyl, -NR9R10, -OR11; R9-11 = hydrogen or alkyl; a, b = pos. nos. satisfying 0 < a+b ≤ 1). Resist compns. comprising the polymers are sensitive to high-energy radiation and have a high sensitivity and resolution at a wavelength of less than 300 nm and improved resistance to oxygen plasma etching.

IT 648895-24-3P  
(silicon-containing polymer, resist composition for patterning process)

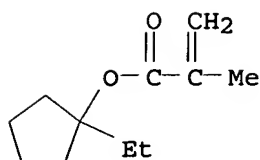
RN 648895-24-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-ethylcyclopentyl ester, polymer with ethenylpentamethyldisiloxane and methyl ethenesulfonate (9CI)  
(CA INDEX NAME)

CM 1

CRN 266308-58-1

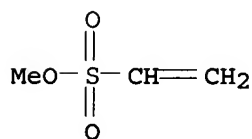
CMF C11 H18 O2



CM 2

CRN 1562-31-8

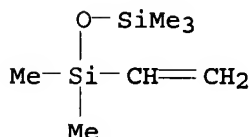
CMF C3 H6 O3 S



CM 3

CRN 1438-79-5

CMF C7 H18 O Si2



IC ICM H01B001-00

ICS C08J003-00

INCL 430311000; 252500000; 524262000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38

IT 648895-18-5P 648895-19-6P 648895-20-9P 648895-21-0P

648895-22-1P 648895-23-2P 648895-24-3P 648895-25-4P

648895-26-5P 648895-27-6P 648895-28-7P 648895-29-8P

648895-30-1P 648895-31-2P 648895-33-4P

(silicon-containing polymer, resist composition for patterning process)

L13 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:1007692 HCAPLUS

DOCUMENT NUMBER: 140:50319

TITLE: Photoacid generating compounds, chemically amplified positive resist materials, and pattern forming method

INVENTOR(S): Hatakeyama, Jun; Kobayashi, Tomohiro; Ohsawa, Youichi

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 47 pp., Cont.-in-part of U.S. Pat. Appl. 2003 207,201.

DOCUMENT TYPE: CODEN: USXXCO  
 LANGUAGE: Patent  
 FAMILY ACC. NUM. COUNT: English  
 2  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE               |
|------------------------|------|----------|-----------------|--------------------|
| US 2003235779          | A1   | 20031225 | US 2003-375773  | 2003<br>0227       |
| US 2003207201          | A1   | 20031106 | US 2002-331785  | 2002<br>1227       |
| PRIORITY APPLN. INFO.: |      |          | JP 2001-397192  | A<br>2001<br>1227  |
|                        |      |          | US 2002-331785  | A2<br>2002<br>1227 |

OTHER SOURCE(S): MARPAT 140:50319

AB The invention provides a high-resolution resist material comprising an acid generator that has high sensitivity and high resolution with respect to high-energy rays of 300 nm or less, has small line-edge roughness, and is superior in heat stability and in shelf stability, and provides a pattern forming method that uses this resist material. The invention further provides a chemical amplified pos. resist material comprising a base resin, an acid generator and a solvent in which the acid generator generates an alkylimidic acid containing a fluorine group, and provides a pattern forming method comprising a step of applying the resist material to the substrate, a step of performing exposure to a high-energy ray of a wavelength of 300 nm or less through a photomask following heat treatment, and a step of performing development by a developing solution following heat treatment.

IT 635715-35-4

(resin; chemical amplified pos. resist materials containing)

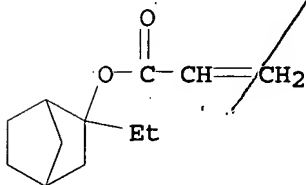
RN 635715-35-4 HCAPLUS

CN 2-Propenoic acid, 2-ethylbicyclo[2.2.1]hept-2-yl ester, polymer with ethenylpentamethyldisiloxane and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 449173-03-9

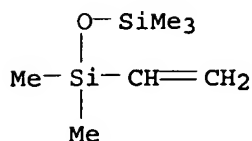
CMF C12 H18 O2



CM 2

CRN 1438-79-5

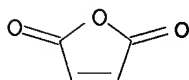
CMF C7 H18 O Si2



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03C001-492

INCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT 155040-27-0 158593-28-3 177034-75-2 200808-68-0  
 279244-15-4 279244-59-6 301153-46-8 326925-68-2  
 330596-02-6 330596-03-7 485819-00-9 485819-02-1  
 490040-72-7 502442-15-1 595558-21-7 601520-54-1  
 601520-57-4 601520-62-1 623932-37-6 635715-32-1  
 635715-34-3 635715-35-4 635715-36-5 635715-38-7  
 635715-39-8

(resin; chemical amplified pos. resist materials containing)

L13 ANSWER 16 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:890212 HCAPLUS

DOCUMENT NUMBER: 139:388469

TITLE: Thionium salt photoacid generators for chemically amplified resists and patterning method using the same

INVENTOR(S): Osawa, Yoichi; Nishi, Tsunehiro; Kobayashi, Tomohiro

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|------|
| -----         | ---- | -----    | -----           |      |
| JP 2003322964 | A2   | 20031114 | JP 2002-129876  |      |

2002  
0501

PRIORITY APPLN. INFO.:

JP 2002-129876

2002  
0501

OTHER SOURCE(S): MARPAT 139:388469

AB The photoacid generators R1R2S+CH2R3C:CR4R5.Y- (I; R1, R2 = C1-6 unsubstituted or O-containing alkyl; R3-R5 = H, C1-6 alkyl, C6-12 aryl;  $\geq 1$  of R3-R5 are C6-12 aryl; Y- = C1-10 alkylsulfonate, C6-20 arylsulfonate, C2-10 bisalkylsulfonylimide, C3-12 trisalkylsulfonylmethide) or R1R2S+CH2C6H5-nR7n.Y- (II; R1, R2, Y- = same as above; R7 = H, C1-6 alkyl, C1-6 alkoxy, NO2, F, Cl; n = 1-5), and pos. resists containing I or II and resins increasing alkali solubility by acid action are sep. claimed. UV ( $\leq 250$  nm) or electron-beam lithog. on the resists, producing submicron patterns with good edge sharpness, is further claimed.

IT 623932-30-9

(assumed monomers; chemical amplified pos. resists containing thonium salt photoacid generators for submicron UV or electron-beam lithog.)

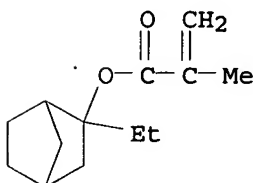
RN 623932-30-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethylbicyclo[2.2.1]hept-2-yl ester, polymer with 2,5-furandione and pentamethyldisiloxanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 330595-98-7

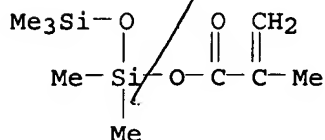
CMF C13 H20 O2



CM 2

CRN 4880-04-0

CMF C9 H20 O3 Si2

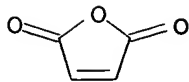


CM 3

CRN 108-31-6



CMF C4 H2 O3

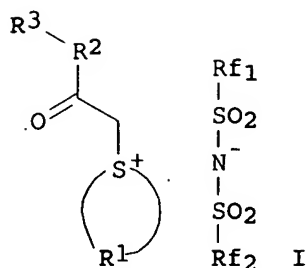


IC ICM G03F007-004  
 ICS G03F007-039; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 29, 38  
 IT 155040-27-0 301153-46-8 326925-68-2 330596-02-6  
 330596-03-7 485819-02-1 490040-72-7 595558-21-7  
 601520-54-1 601520-62-1 623932-20-7 623932-22-9  
 623932-23-0 623932-24-1 623932-26-3 623932-27-4  
 623932-29-6 623932-30-9 623932-32-1 623932-33-2  
 623932-35-4 623932-36-5 623932-37-6 623932-39-8  
 623932-41-2  
 (assumed monomers; chemical amplified pos. resists containing thionium  
 salt photoacid generators for submicron UV or electron-beam  
 lithog.)

L13 ANSWER 17 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2003:734749 HCAPLUS  
 DOCUMENT NUMBER: 139:267981  
 TITLE: Photosensitive acid-generating agent,  
 chemically amplified positively-working  
 photoresist material, and patterning method  
 Hatakeyama, Jun; Kobayashi, Tomohiro; Osawa,  
 Yoichi  
 INVENTOR(S):  
 PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 49 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE              |
|------------------------|------|----------|-----------------|-------------------|
| JP 2003261529          | A2   | 20030919 | JP 2002-369145  | 2002<br>1220      |
| PRIORITY APPLN. INFO.: |      |          | JP 2001-397192  | A<br>2001<br>1227 |

OTHER SOURCE(S): MARPAT 139:267981  
 GI



AB The acid-generating agent is a sulfonium salt represented as I [R1 = C2-8 alkylene; R2 = direct bond, O, N, C1-4 alkylene; R3 = (substituted) linear, branched, or cyclic alkyl, aryl; Rf1 and/or Rf2 = F-containing C1-20 linear, branched, or cyclic alkyl which may involve OH, carbonyl, ester, ether or aryl; Rf1 and Rf2 may form rings]. The chemical amplified pos. working photoresist contains, a base resin, a solvent, and an agent releasing an alkyylimidic acid, preferably I or R4nM+ Rf1SO2NSO2Rf2- [R4 = linear, branched, or cyclic alkyl (involving carbonyl, ester, ether, thioether, or double bond), aryl, aralkyl; M = iodonium, sulfonium; n = 2, 3]. The photoresist material is applied on a substrate, heated, exposed to high-energy radiation with wavelength  $\leq 300$  nm through a photomask, heated, and developed to form a pattern. The pattern with high resolution, small line edge roughness, and heat and storage stability is obtained by the method.

IT 601520-59-6

(photosensitive fluoroalkylimidic acid-generating agent for chemical amplified pos.-working photoresist material)

RN 601520-59-6 HCAPLUS

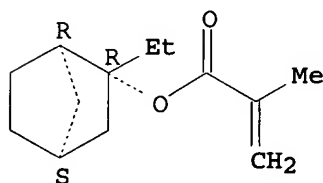
CN 2-Propenoic acid, 2-methyl-, (1R,2R,4S)-2-ethylbicyclo[2.2.1]hept-2-yl ester, rel., polymer with ethenylpentamethyldisiloxane and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 271598-68-6

CMF C13 H20 O2

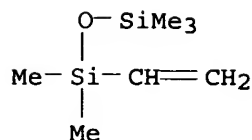
Relative stereochemistry.



CM 2

CRN 1438-79-5

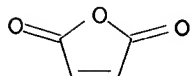
CMF C7 H18 O Si2



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM C07C311-48  
 ICS C07D333-46; C07D335-02; G03F007-004; G03F007-039; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 23, 38  
 IT 155040-27-0 158593-28-3 177034-75-2 200808-68-0  
 279244-15-4 279244-59-6 290808-54-7 301153-46-8  
 326925-68-2 417702-19-3 485391-28-4 601520-52-9  
 601520-53-0 601520-54-1 601520-55-2 601520-56-3  
 601520-57-4 601520-58-5 601520-59-6 601520-60-9  
 601520-61-0 601520-62-1 601520-64-3 601520-65-4  
 601520-66-5  
 (photosensitive fluoroalkylimidic acid-generating agent for  
 chemical amplified pos.-working photoresist material)

L13 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:868986 HCAPLUS

DOCUMENT NUMBER: 137:370796

TITLE: Radiation-sensitive polysiloxane resin  
compositionINVENTOR(S): Iwasawa, Haruo; Hayashi, Akihiro; Shimokawa,  
Tsutomu; Yamamoto, Masafumi

PATENT ASSIGNEE(S): JSR Co., Ltd., Japan

SOURCE: PCT Int. Appl., 155 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|------|
| WO 2002090423 | A1   | 20021114 | WO 2002-JP4333  |      |

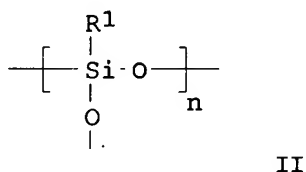
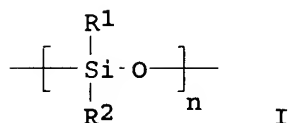
2002  
0430

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 CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,  
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR,  
 KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
 MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI,

SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU,  
 ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT,  
 BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,  
 NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
 ML, MR, NE, SN, TD, TG

JP 2003020335 A2 20030124 JP 2002-48643 2002  
 0225  
 TW 594389 B 20040621 TW 2002-91108860 2002  
 0429  
 EP 1398339 A1 20040317 EP 2002-722907 2002  
 0430  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
 CN 1505651 A 20040616 CN 2002-809212 2002  
 0430  
 US 2004143082 A1 20040722 US 2003-476453 2003  
 1031  
 PRIORITY APPLN. INFO.: JP 2001-133795 A 2001  
 0501  
 JP 2002-48643 A 2002  
 0225  
 WO 2002-JP4333 W 2002  
 0430

OTHER SOURCE(S): MARPAT 137:370796  
 GI



AB A radiation-sensitive resin composition excellent in sensitivity and resolution, is composed of (A) a polysiloxane resin exhibiting high transparency even at a wavelength  $\leq 193$  nm (particularly 157 nm), excellent dry etching resistance,  $M_w = 500 - 1,000,000$ , and  $PDI \leq 1.5$  which comprises units represented by the I and/or II and acid-dissociable groups (wherein R1 is a fluorinated or fluoroalkylated monovalent aromatic group or a fluorinated or fluoroalkylated monovalent alicyclic group; and R2 is a monovalent aromatic group described above, a monovalent alicyclic group described above, H, halogeno, a monovalent hydrocarbon group,

haloalkyl, or amino), and (B) a radiation-sensitive acid generator. Thus, 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-(triethoxysilyl)-, 1,1-dimethylethyl ester, 2-(2,2-ditrifluoromethylethyl)-norbornanyltriethoxysilane, and pentafluorophenyltriethoxysilane synthesized from pentafluorobenzene and tetraethoxysilane were polymerized to obtain a polysiloxane with transparent ratio at 157 nm 57.0 %, Tg 103°.

IT 474559-40-5P

(radiation-sensitive polysiloxane resin composition)

RN 474559-40-5 HCAPLUS

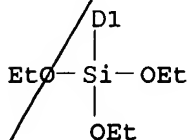
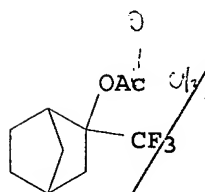
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-(triethoxysilyl)-, 1,1-dimethylethyl ester, polymer with 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol and 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]hept-2-yl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 474559-08-5

CMF C16 H27 F3 O5 Si

CCI IDS

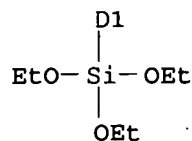
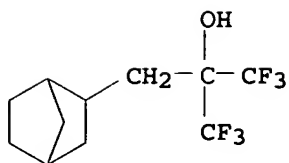


CM 2

CRN 365546-74-3

CMF C17 H28 F6 O4 Si

CCI IDS

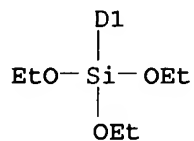
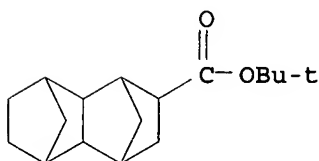


CM 3

CRN 365546-67-4

CMF C23 H40 O5 Si

CCI IDS



IT 474559-57-4P 474657-66-4P

(radiation-sensitive polysiloxane resin composition)

RN 474559-57-4 HCAPLUS

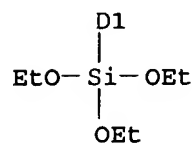
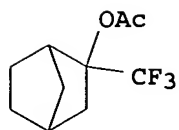
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol and 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]hept-2-yl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 474559-08-5

CMF C16 H27 F3 O5 Si

CCI IDS

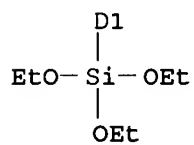
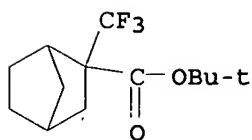


CM 2

CRN 474559-06-3

CMF C19 H33 F3 O5 Si

CCI IDS

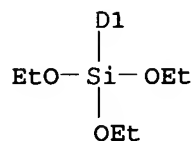
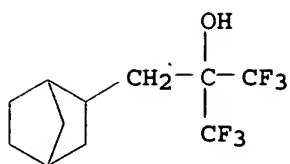


CM 3

CRN 365546-74-3

CMF C17 H28 F6 O4 Si

CCI IDS



RN 474657-66-4 HCAPLUS

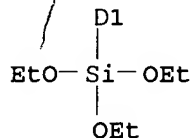
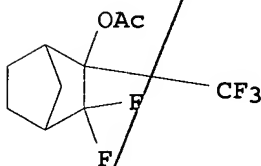
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with 3,3-difluoro-5(or 6)-(triethoxysilyl)-2-(trifluoromethyl)bicyclo[2.2.1]hept-2-yl acetate and 5(or 6)-(triethoxysilyl)- $\alpha,\alpha$ -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 474559-49-4

CMF C16 H25 F5 O5 Si

CCI IDS



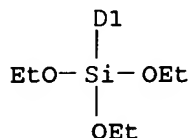
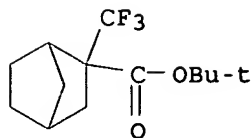
CM 2

CRN 474559-06-3

CMF C19 H33 F3 O5 Si

CCI IDS



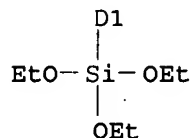
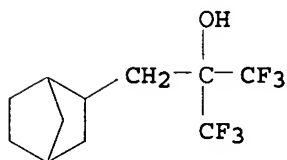


CM 3

CRN 365546-74-3

CMF C17 H28 F6 O4 Si

CCI IDS



IC ICM C08G077-24

ICS C08L083-08; G03F007-075; G03F007-039

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 35

IT 474559-32-5P 474559-33-6P 474559-34-7P 474559-35-8P  
 474559-36-9P 474559-37-0P 474559-38-1P 474559-39-2P  
**474559-40-5P** 474559-41-6P 474559-42-7P 474559-43-8P

(radiation-sensitive polysiloxane resin composition)

IT 474559-53-0P 474559-54-1P 474559-55-2P 474559-56-3P  
**474559-57-4P** 474559-58-5P 474559-59-6P 474657-62-0P  
 474657-63-1P 474657-64-2P 474657-65-3P **474657-66-4P**  
 474657-67-5P 474657-68-6P 474657-69-7P

(radiation-sensitive polysiloxane resin composition)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L13 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:709220 HCAPLUS

DOCUMENT NUMBER: 137:255337

TITLE: Polymer in chemically amplified vacuum  
UV-sensitive resist composition and method for  
pattern formation using the same

INVENTOR(S): Hatakeyama, Jun; Takahashi, Toshiaki;  
Watanabe, Atsushi; Ishihara, Toshinobu;  
Sasako, Masaru; Endo, Masataka; Kishimura,  
Shinji; Otani, Michitaka; Miyazawa, Satoru;  
Tsutsumi, Kentaro; Maeda, Kazuhiko

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan;  
Matsushita Electric Industrial Co., Ltd.;  
Central Glass Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

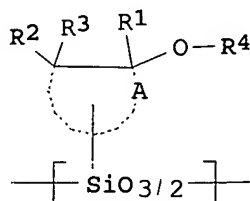
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE         |
|------------------------|------|----------|-----------------|--------------|
| JP 2002268226          | A2   | 20020918 | JP 2001-70208   | 2001<br>0313 |
| PRIORITY APPLN. INFO.: |      |          |                 | 2001<br>0313 |

GI



AB The title polymer has a repeating unit of structure I ( A =  
divalent organic group; R1-3 = H, F, C1-4 alkyl; R4 = acid-sensitive  
group). The polymer provides photoresist of high sensitivity,  
high resolution, and good plasma etching-resistance.

IT 460731-95-7P 460731-97-9P  
(polymer in chemical amplified vacuum UV-sensitive resist composition)

RN 460731-95-7 HCAPLUS

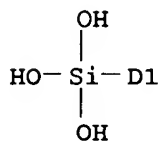
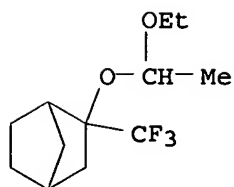
CN Silanetriol, [(1-ethoxyethoxy)(trifluoromethyl)bicyclo[2.2.1]hept-  
2-yl]-, polymer with [hydroxy(trifluoromethyl)bicyclo[2.2.1]hept-2-  
yl]silanetriol (9CI) (CA INDEX NAME)

CM 1

CRN 460731-94-6

CMF C12 H21 F3 O5 Si

CCI IDS

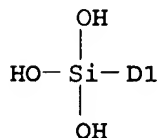
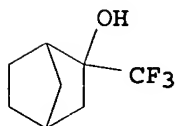


CM 2

CRN 460731-93-5

CMF C8 H13 F3 O4 Si

CCI IDS



RN 460731-97-9 HCAPLUS

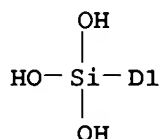
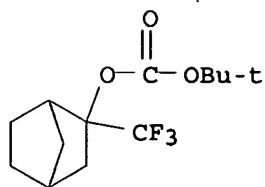
CN Carbonic acid, 1,1-dimethylethyl 2-(trifluoromethyl)-5(or 6)-(trihydroxysilyl)bicyclo[2.2.1]hept-2-yl ester, polymer with [hydroxy(trifluoromethyl)bicyclo[2.2.1]hept-2-yl]silanetriol (9CI)  
(CA INDEX NAME)

CM 1

CRN 460731-96-8

CMF C13 H21 F3 O6 Si

CCI IDS

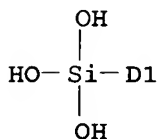
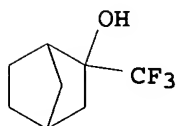


CM 2

CRN 460731-93-5

CMF C8 H13 F3 O4 Si

CCI IDS



IC ICM G03F007-039

ICS C08G077-24; C08K005-00; C08L083-08; G03F007-40; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35

IT 460731-93-5P 460731-95-7P 460731-97-9P

(polymer in chemical amplified vacuum UV-sensitive resist composition)

L13 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:688176 HCAPLUS

DOCUMENT NUMBER: 137:224121

TITLE: Copolymers containing allylsilane derivatives, their chemically amplified resist materials, and pattern formation thereof

INVENTOR(S): Hatakeyama, Jun; Takeda, Takanobu; Ishihara, Toshinobu; Kubota, Toru; Tonomura, Yoichi

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

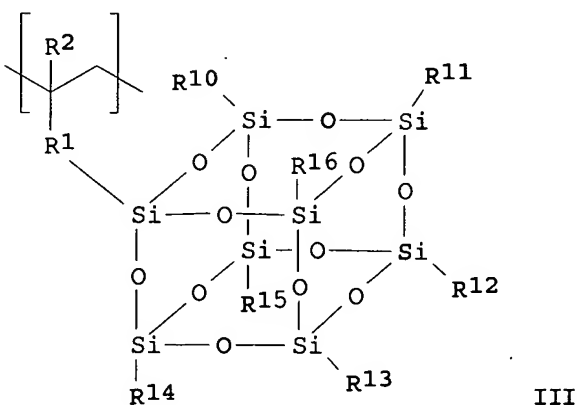
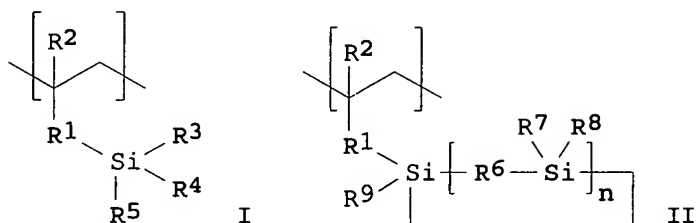
SOURCE: Jpn. Kokai Tokkyo Koho, 38 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.<br>-----    | KIND<br>---- | DATE<br>----- | APPLICATION NO.<br>----- | DATE          |
|------------------------|--------------|---------------|--------------------------|---------------|
| JP 2002256033          | A2           | 20020911      | JP 2001-56536            | 2001<br>.0301 |
| PRIORITY APPLN. INFO.: |              |               | JP 2001-56536            | 2001<br>0301  |

GI



AB The copolymers, useful for bilayer resists, contain  $\geq 1$  repeating units selected from I, II, and III ( $\text{R}_1$  = C1-10 linear, branched, or cyclic alkylene;  $\text{R}_2$  = H, C1-10 linear, branched, or cyclic alkyl;  $\text{R}_3$ - $\text{R}_5$  = C1-20 alkyl, haloalkyl, C6-20 aryl, Si-containing group which bond Si in the formula as siloxane bond or silalkylene bond;  $\geq 1$  of  $\text{R}_3$ - $\text{R}_5$  is Si-containing group;  $\text{R}_6$  = O, C1-10 linear, branched, or cyclic alkylene, arylene;  $\text{R}_7$ - $\text{R}_{16}$  = C1-10 linear, branched, or cyclic alkyl, fluorinated alkyl, aryl;  $n$  = 2-10 integer). Preferably, the copolymers further contain repeating units based on maleic anhydride derivs and tetrafluoroethylene derivs. The copolymers may contain  $\leq 90$  mol% acid-unstable groups. The copolymers are useful for resist materials, especially chemical amplified resist materials which also

contain acid generators, organic solvents, dissoln. inhibitors, and bases. The resist materials are applied on substrates, heated, exposed to high-energy ray with wavelength  $\leq 300$  nm or electron beam via photomasks, heated if necessary, and developed to form patterns which may be further etched by using O plasma or Cl- or Br-containing halogen gases.

IT 455303-22-7P 455303-24-9P  
(chemical amplified resists containing copolymers of allylsilane derivs. for bilayer resist patterns)

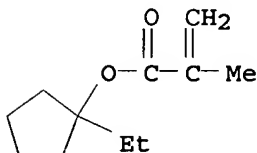
RN 455303-22-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-ethylcyclopentyl ester, polymer with 2,5-furandione and pentamethyl-2-propenyldisiloxane (9CI)  
(CA INDEX NAME)

CM 1

CRN 266308-58-1

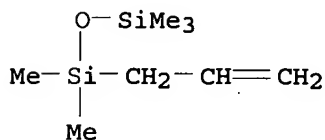
CMF C11 H18 O2



CM 2

CRN 7087-19-6

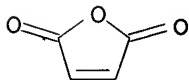
CMF C8 H20 O Si2



CM 3

CRN 108-31-6

CMF C4 H2 O3

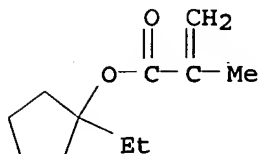


RN 455303-24-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-ethylcyclopentyl ester, polymer with 1-methyl-1H-pyrrole-2,5-dione and pentamethyl-2-propenyldisiloxane (9CI) (CA INDEX NAME)

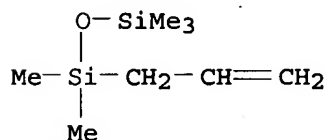
CM 1

CRN 266308-58-1  
CMF C11 H18 O2



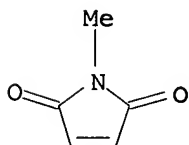
CM 2

CRN 7087-19-6  
CMF C8 H20 O Si2



CM 3

CRN 930-88-1  
CMF C5 H5 N O2



IC ICM C08F230-08  
ICS C08F212-14; C08F214-00; C08F216-14; C08F220-10; C08F222-06;  
C08F222-40; C08F232-00; C08F234-00; C08K005-00; C08K005-16;  
C08L043-04; G03F007-039; H01L021-027  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
Section cross-reference(s): 38  
IT 455303-22-7P 455303-24-9P 455303-26-1P  
455303-28-3P 455303-30-7P 455303-32-9P 455303-34-1P  
(chemical amplified resists containing copolymers of allylsilane  
derivs. for bilayer resist patterns)

L13 ANSWER 21 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:423002 HCAPLUS

DOCUMENT NUMBER: 136:402938

TITLE: Organic solvent-free fast-curing silicone  
compositions and release paper therefrom

INVENTOR(S): Ito, Hideyuki

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE         |
|------------------------|------|----------|-----------------|--------------|
| JP 2002161208          | A2   | 20020604 | JP 2000-360956  | 2000<br>1128 |
| PRIORITY APPLN. INFO.: |      |          |                 | 2000<br>1128 |

AB The compns., showing proper peeling strength depending on peeling rate, satisfy intrinsic viscosity ( $\eta$ ; at 25°) 50-600 mPa-s and comprise (A) organopolysiloxanes  $(R_1R_2SiO_{1/2})_2 + a(R_2SiO)_n(RSiO_{2/3})_a$  ( $R_1$  = alkenyl;  $R$  = aliphatic unsatd. bond-free hydrocarbyl;  $30 \leq n \leq 250$ ;  $a = 0, 1$ ;  $\eta$  50-1000 mPa-s) 100, (B) diorganopolysiloxanes  $(HR_2SiO_{1/2})_2(R_2SiO)_m$  ( $R$  = aliphatic unsatd. bond-free hydrocarbyl,  $2 \leq m \leq 20$ ;  $\eta$  2-30 mPa-s; mol. ratio of SiH based on alkenyls in A 0.3-0.8) 0.5-15.0, and (C)  $\geq 3$  (/mol.)-SiH-bearing organohydrogenopolysiloxanes (SiH mol. part based on alkenyls in A 0.4-3.0) 0.3-10.0 parts and contain (D) Pt-group metal catalysts. Thus, a composition comprising 100:3.3:1.5:0.3 (part) dimethylvinylsilyl-terminated di-Me siloxane ( $\eta$  390 mPa-s), dimethylsilyl-terminated di-Me siloxane [ $\eta$  5 mPa-s, (SiH)/(alkenyl in A) 0.5], Me H polysiloxane [(SiH)/(alkenyl in A) 1.3], and 1-ethynyl-1-cyclohexanol and containing a Pt-vinylsiloxane complex, showing curing time 15 s at 120°, was applied on polyethylene-laminated paper and cured to give release paper showing peeling strength 0.64 and 5.78 N/50 mm at peeling rate 0.3 and 60 m/min, resp.

IT 431897-90-4P 431897-91-5P 431897-92-6P  
 (alkenylsiloxane- and organohydrogen siloxane-based fast-curing release coatings for release paper with proper peelability)

RN 431897-90-4 HCAPLUS

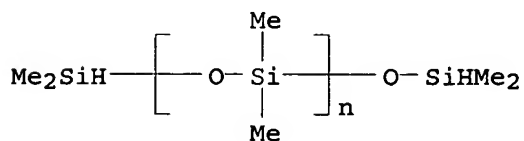
CN Silanediol, methyl-, polymer with  $\alpha$ -(dimethylsilyl)- $\omega$ -[(dimethylsilyl)oxy]poly[oxy(dimethylsilylene)],  $\alpha$ -(ethenyldimethylsilyl)- $\omega$ -[(ethenyldimethylsilyl)oxy]poly[oxy(dimethylsilylene)] and 1-ethynylcyclohexanol (9CI) (CA INDEX NAME)

CM 1

CRN 115254-29-0

CMF (C2 H6 O Si) $_n$  C4 H14 O Si2

CCI PMS



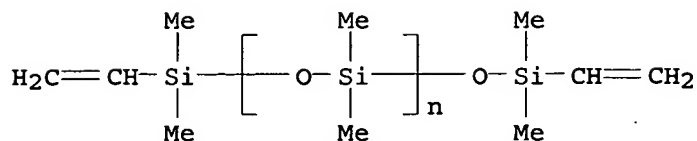


CM 2

CRN 59942-04-0

CMF (C2 H6 O Si)<sub>n</sub> C8 H18 O Si2

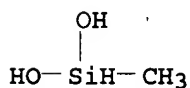
CCI PMS



CM 3

CRN 43641-90-3

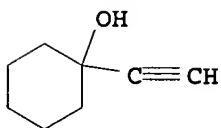
CMF C H6 O2 Si



CM 4

CRN 78-27-3

CMF C8 H12 O



RN 431897-91-5 HCAPLUS

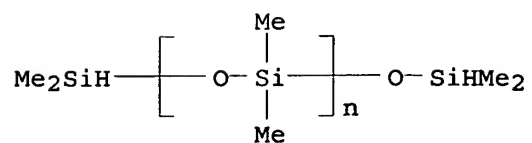
CN Silanediol, dimethyl-, polymer with [(1,1-dimethyl-2-propenyl)oxy]trimethylsilane,  $\alpha$ -(dimethylsilyl)- $\omega$ -[(dimethylsilyl)oxy]poly[oxy(dimethylsilylene)],  $\alpha$ -(ethenyldimethylsilyl)- $\omega$ -[(ethenyldimethylsilyl)oxy]poly[oxy(dimethylsilylene)], 1-ethynylcyclohexanol,  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(dimethylsilylene)] and methylsilanediol (9CI) (CA INDEX NAME)

CM 1

CRN 115254-29-0

CMF (C2 H6 O Si)<sub>n</sub> C4 H14 O Si2

CCI PMS

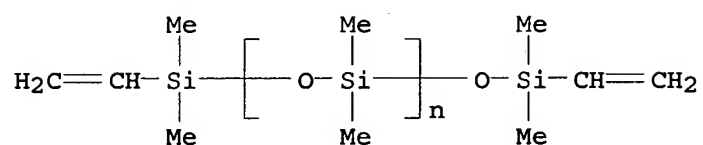


CM 2

CRN 59942-04-0

CMF (C2 H6 O Si)<sub>n</sub> C8 H18 O Si2

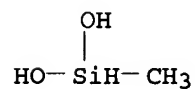
CCI PMS



CM 3

CRN 43641-90-3

CMF C H6 O2 Si

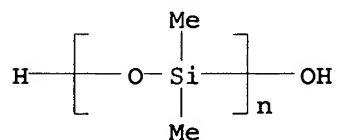


CM 4

CRN 31692-79-2

CMF (C2 H6 O Si)<sub>n</sub> H2 O

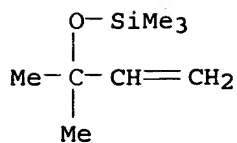
CCI PMS



CM 5

CRN 19916-99-5

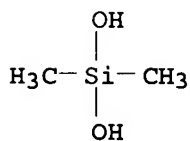
CMF C8 H18 O Si



CM 6

CRN 1066-42-8

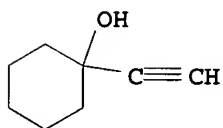
CMF C2 H8 O2 Si



CM 7

CRN 78-27-3

CMF C8 H12 O



RN 431897-92-6 HCAPLUS

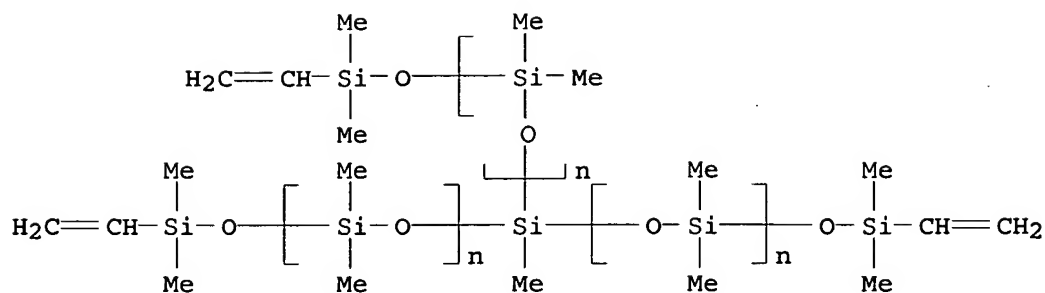
CN Silanediol, methyl-, polymer with  $\alpha$ -(dimethylsilyl)- $\omega$ -  
 [(dimethylsilyl)oxy]poly[oxy(dimethylsilylene)],  
 1-ethynylcyclohexanol and  $\alpha, \alpha', \alpha''$ -  
 (methylsilylidyne)tris[ $\omega$ -[(ethenyldimethylsilyl)oxy]poly[oxy  
 (dimethylsilylene)]] (9CI) (CA INDEX NAME)

CM 1

CRN 217174-00-0

CMF (C2 H6 O Si)<sub>n</sub> (C2 H6 O Si)<sub>n</sub> (C2 H6 O Si)<sub>n</sub> C13 H30 O3 Si4

CCI PMS

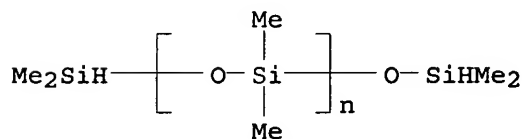


CM 2

CRN 115254-29-0

CMF (C2 H6 O Si)<sub>n</sub> C4 H14 O Si2

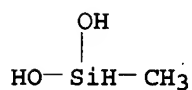
CCI PMS



CM 3

CRN 43641-90-3

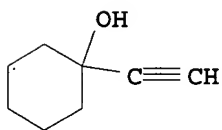
CMF C H6 O2 Si



CM 4

CRN 78-27-3

CMF C8 H12 O



IC ICM C08L083-07

ICS C09J183-04; C09J183-05; C09J183-07; D21H027-00; C08L083-07;  
C08L083-05

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 43

IT 431897-90-4P 431897-91-5P 431897-92-6P

(alkenylsiloxane- and organohydrogen siloxane-based fast-curing release coatings for release paper with proper peelability)

L13 ANSWER 22 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:216336 HCAPLUS

DOCUMENT NUMBER: 136:254552

TITLE: Chemically amplified positive photoresist compositions with good oxygen plasma resistance and reduced edge roughness for high resolution patterns

INVENTOR(S): Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 33 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.                            | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------------------------------|------|----------|-----------------|--------------|
| -----                                 | ---- | -----    | -----           |              |
| JP 2002082437                         | A2   | 20020322 | JP 2000-270090  | 2000<br>0906 |
| PRIORITY APPLN. INFO.: JP 2000-270090 |      |          |                 | 2000<br>0906 |

AB The pos. photoresist compns., useful for an upper layer of a two-layered resist, etc., contain acid-decomposable polysiloxanes comprising a repeating unit  $\text{Si}[(\text{CH}_2)_n\text{L}_1\text{M}_1\text{CO}_2\text{Q}]_3\text{O}_{3/2}$  ( $\text{L}_1 = \text{AOCO}$ ,  $\text{ACO}_2$ ,  $\text{ANHCO}$ ,  $\text{AS}$ , etc.;  $\text{A}$ ,  $\text{M}_1 =$  single linkage, arylene, divalent or bridged alicyclic group;  $n = 1-6$ ;  $\text{Q} = \text{H}$ , acid-decomposable group generating carboxylic acid).

IT 404339-81-7

(silsesquioxane-based chemical amplified pos. photoresists with good oxygen plasma resistance and reduced edge roughness)

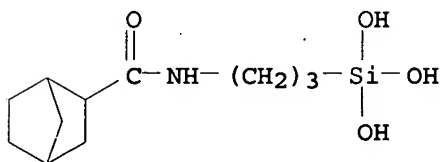
RN 404339-81-7 HCAPLUS

CN Cyclohexanecarboxylic acid, 2-[[[3-(trihydroxysilyl)propyl]amino]carbonyl]-, 1-methylcyclohexyl ester, polymer with silicic acid ( $\text{H}_4\text{SiO}_4$ ) and N-[3-(trihydroxysilyl)propyl]bicyclo[2.2.1]heptane-2-carboxamide (9CI) (CA INDEX NAME)

CM 1

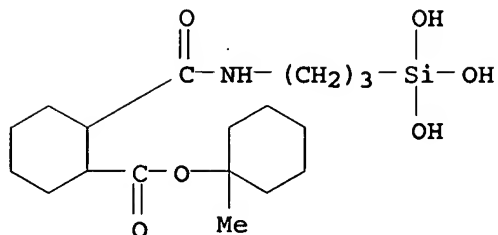
CRN 404339-80-6

CMF C11 H21 N O4 Si



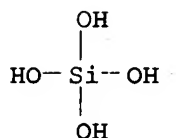
CM 2

CRN 404339-79-3  
CMF C18 H33 N O6 Si



CM 3

CRN 10193-36-9  
CMF H4 O4 Si



IC ICM G03F007-039  
ICS C08G077-04; C08K005-00; C08L083-04; G03F007-004; G03F007-075;  
H01L021-027  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
Section cross-reference(s): 76  
IT 404339-74-8 404339-76-0 404339-78-2 404339-81-7  
(silsesquioxane-based chemical amplified pos. photoresists with  
good oxygen plasma resistance and reduced edge roughness)

L13 ANSWER 23 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:128963 HCAPLUS

DOCUMENT NUMBER: 136:191720

TITLE: Transparent ink-jet recording sheet for  
overhead projector

INVENTOR(S): Kishi, Hiroyoshi

PATENT ASSIGNEE(S): Canon Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| JP 2002052814 | A2   | 20020219 | JP 2000-244263  | 2000<br>0811 |

PRIORITY APPLN. INFO.:

JP 2000-244263

2000

0811

AB The sheet has a transparent support comprising a polymer in which a Si oxide is bonded with saccharides via  $\geq 1$  of siloxane, urethane, urea, and amide bonds. It showed high transparency, low haze, and improved heat resistance and biodegradability.

IT 399513-18-9P, 3-Isocyanatopropyltriethoxysilane-sucrose-tetraethoxysilane copolymer  
(transparent ink-jet printing sheet made of polymer prepared from silicon oxide and saccharide)

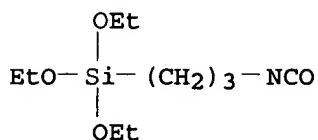
RN 399513-18-9 HCAPLUS

CN  $\alpha$ -D-Glucopyranoside,  $\beta$ -D-fructofuranosyl, polymer with silicic acid ( $\text{H}_4\text{SiO}_4$ ) tetraethyl ester and triethoxy(3-isocyanatopropyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 24801-88-5

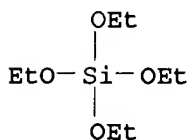
CMF C10 H21 N O4 Si



CM 2

CRN 78-10-4

CMF C8 H20 O4 Si

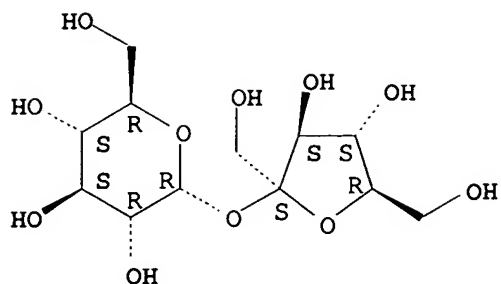


CM 3

CRN 57-50-1

CMF C12 H22 O11

Absolute stereochemistry.



IC ICM B41M005-00  
ICS B41J002-01  
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38  
IT 181784-51-0P, Acetylcellulose-tetramethoxysilane copolymer 399513-17-8P, Cellobiose-3-isocyanatopropyltriethoxysilane-tetraethoxysilane copolymer 399513-18-9P, 3-Isocyanatopropyltriethoxysilane-sucrose-tetraethoxysilane copolymer 399513-19-0P, Maltopentaose-tetramethoxysilane copolymer 399519-25-6P, Acetyl cellulose-3-isocyanatopropyltriethoxysilane-tetramethoxysilane copolymer (transparent ink-jet printing sheet made of polymer prepared from silicon oxide and saccharide)

L13 ANSWER 24 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:603578 HCAPLUS

DOCUMENT NUMBER: 135:187712

TITLE: Fluorinated acrylic polymer, chemically amplified resist using it, and its patterning  
INVENTOR(S): Hatakeyama, Jun; Watanabe, Atsushi; Harada, Yuji

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE      |
|---------------|------|----------|-----------------|-----------|
| JP 2001226432 | A2   | 20010821 | JP 2000-37403   | 2000 0216 |

PRIORITY APPLN. INFO.: JP 2000-37403

2000  
0216

AB The fluorinated acrylic polymer has a repeating unit of [CR<sub>1</sub>R<sub>2</sub>CR<sub>3</sub>(CO<sub>2</sub>R<sub>4</sub>)] [R<sub>1</sub>-R<sub>3</sub> = H, F, C<sub>1</sub>-10 (fluorinated) alkyl; ≥1 of R<sub>1</sub>-R<sub>3</sub> contains F; R<sub>4</sub> = Si-containing group]. The resist contains the above polymer, an organic solvent, and an acid generator. Patterning is carried out by applying the above resist on a substrate via an organic film, heating the substrate, exposing with a ≤300-nm high-energy or electron beam via a



photomask, and developing with a developer optionally after heating, and treating the organic film with an O plasma etching apparatus. The resist shows good plasma etching resistance and high sensitivity to high-energy beam, especially at wavelength  $\leq 170$  nm to give high-resolution patterns to be useful for ultra-large-scale IC (ULSI).

IT 355138-90-8P

(fluorinated silyl-pendent acrylic polymer for chemical amplified pos.-working resist)

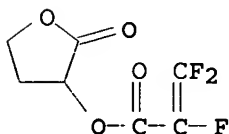
RN 355138-90-8 HCAPLUS

CN 2-Propenoic acid, 2,3,3-trifluoro-, 1-ethylcyclopentyl ester, polymer with 3-(pentamethyldisiloxanyl)propyl 2,3,3-trifluoro-2-propenoate and tetrahydro-2-oxo-3-furanyl 2,3,3-trifluoro-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 355138-83-9

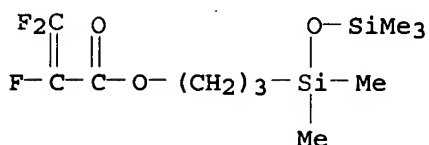
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CM 2

CRN 355138-77-1

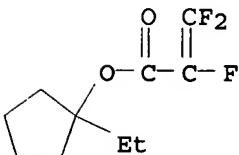
CMF C11 H21 F3 O3 Si2



CM 3

CRN 351492-85-8

CMF C10 H13 F3 O2



IC ICM C08F030-08

ICS G03F007-039; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and

## Other Reprographic Processes)

Section cross-reference(s): 38

IT 355138-84-0P 355138-85-1P 355138-86-2P 355138-88-4P  
 355138-89-5P 355138-90-8P 355138-91-9P 355138-92-0P  
 (fluorinated silyl-pendent acrylic polymer for chemical amplified  
 pos.-working resist)

L13 ANSWER 25 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:435090 HCAPLUS

DOCUMENT NUMBER: 135:5768

TITLE: Synthesis of sialylated oligosaccharide donors  
via sialylation and enzymic glycosidationINVENTOR(S): Mehta, Seema; Gilbert, Michel; Wakarchuk,  
Warren W.; Whitfield, Dennis M.

PATENT ASSIGNEE(S): National Research Council of Canada, Can.

SOURCE: PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| WO 2001042264 | A1   | 20010614 | WO 2000-CA1487  | 2000<br>1208 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,  
 CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,  
 KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
 MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,  
 TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE,  
 CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,  
 PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR,  
 NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 1999-169945P

P

1999

1210

AB A method for the synthesis of aryl thio glycosides comprising a  
 sialylated residue of  $\beta$ -D-galactose is disclosed. The method  
 consists of preparing by a chemical synthesis a non-sialylated aryl thio  
 glycoside, and enzymically sialylating the latter with a sialic  
 acid in the presence of a suitable sialyltransferase. The  
 sialylated aryl thio glycoside is then chemical derivatized by standard  
 procedures, to provide a derivative suitable for use as a donor in  
 chemical syntheses of sialylated oligosaccharides. The derivatized  
 sialylated aryl thio glycosides are prepared in high yields, due to  
 reduced number of chemical and purification steps involved in the process.  
 Derivatized aryl thio glycosides useful as building blocks for the  
 synthesis of biol. active sialylated oligosaccharides are also  
 disclosed. Thus, [Methyl (5-acetamido-4,7,8,9-tetra-O-acetyl-3,5-  
 dideoxy-D-glycero- $\alpha$ -D-galacto-2-nonulopyranosyl)onate]-(2,3)-  
 O-(2,4,6-tri-O-acetyl- $\beta$ -D-galactopyranosyl)-(1,4)-3-O-acetyl-  
 6-O-tert-butylidiphenylsilyl-2-deoxy-2-phthalimido- $\beta$ -D-  
 glucopyranoside was prepared via sialylation and enzymic

glycosidation reactions.

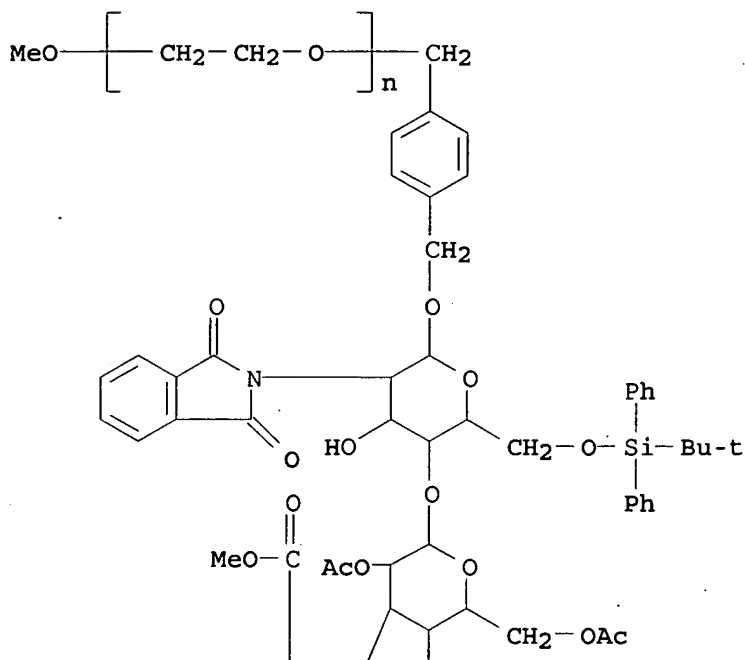
IT 342428-16-4P

(synthesis of sialylated oligosaccharide donors via sialylation and enzymic glycosidation)

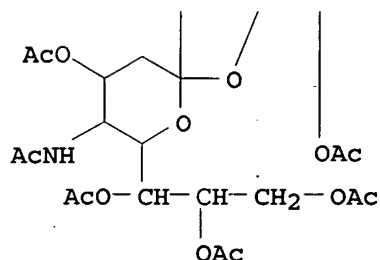
RN 342428-16-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[[4-[[[O-(N-acetyl-4,7,8,9-tetra-O-acetyl-1-methyl- $\alpha$ -neuraminosyl)-(2 $\rightarrow$ 3)-O-2,4,6-tri-O-acetyl- $\beta$ -D-galactopyranosyl)-(1 $\rightarrow$ 4)-2-deoxy-2-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-6-O-[(1,1-dimethylethyl)diphenylsilyl]- $\beta$ -D-glucopyranosyl]oxy]methyl]phenyl]methyl]- $\omega$ -methoxy- (9CI)  
(CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM C07H015-14  
ICS C07H015-203; C07H015-20; C12P019-26  
CC 33-8 (Carbohydrates)  
Section cross-reference(s): 7, 9

IT 7464-38-2P 263712-07-8P 342428-16-4P  
(synthesis of sialylated oligosaccharide donors via sialylation  
and enzymic glycosidation)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L13 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:86345 HCAPLUS

DOCUMENT NUMBER: 134:148830

TITLE: Silicone rubber compositions with low hardness  
and tension set

INVENTOR(S): Irie, Masakazu

PATENT ASSIGNEE(S): Dow Corning Toray Silicone Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| -----         | ---- | -----    | -----           |              |
| JP 2001031868 | A2   | 20010206 | JP 1999-208416  | 1999<br>0723 |
|               |      |          |                 | 1999<br>0723 |

PRIORITY APPLN. INFO.: JP 1999-208416

AB The compns., giving cured products with Ascar C hardness 5-60,  
contain (A) 100 parts RaSiO(4-a)/2 [R = (un)substituted  
hydrocarbyl containing 0-0.08 mol% alkenyl; a = 1.95-2.05], (B)  
0.01-10 parts organic compds. (mol. weight ≤10,000) containing 5-40%  
alkenyl or alkynyl group in a mol, (C) 5-500 parts inorg. fillers,  
and (D) organic peroxides. Thus, 100 parts a mixture containing  
silanol-terminated di-Me siloxanes 100, MeSi[OSiMe2(CH:CH2)]3  
0.15, and Aerosil 50 (fumed silica) 15 parts was mixed with 0.6  
part 2,5-dimethyl-2,5-di(tert-butylperoxy)hexane and vulcanized to  
give a sheet with Ascar C hardness (JIS A 6050) 22 and tension set  
(JIS K 6301) 6%.

IT 323183-75-1P  
(rubber, vulcanized; silicone rubber compns. with low hardness  
and tension set)

RN 323183-75-1 HCAPLUS

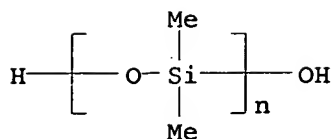
CN Cyclohexanol, 1-ethynyl-, polymer with α-hydro-ω-  
hydroxypoly[oxy(dimethylsilylene)] (9CI) (CA INDEX NAME)

CM 1

CRN 31692-79-2

CMF (C2 H6 O Si)n H2 O

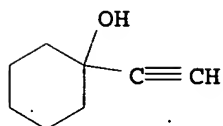
CCI PMS



CM 2

CRN 78-27-3

CMF C8 H12 O



IC ICM C08L083-04

CC 39-9 (Synthetic Elastomers and Natural Rubber)

IT 323183-69-3P 323183-70-6P 323183-71-7P 323183-72-8P

323183-74-0P **323183-75-1P**

(rubber, vulcanized; silicone rubber compns. with low hardness and tension set)

L13 ANSWER 27 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:62635 HCAPLUS

DOCUMENT NUMBER: 134:123586

TITLE: Resist resin for chemically amplified resist  
resin composition suitable for excimer and  
electron beam lithography and method for  
pattern formation using same

INVENTOR(S): Fujiwara, Tadayuki; Wakisaka, Koya

PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

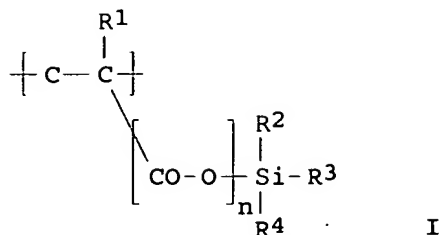
| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| -----         | ---- | -----    | -----           |              |
| JP 2001022076 | A2   | 20010126 | JP 1999-198165  | 1999<br>0712 |

PRIORITY APPLN. INFO.:

JP 1999-198165

1999  
0712

GI

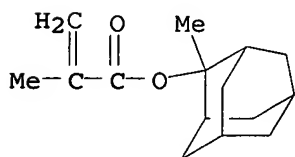


- AB The title resin becomes soluble in an alkali upon reacting with an acid and contains repeating unit I ( R1 = H, F, Cl, alkyl, silyl; R2-4 = F, Cl, alkyl, alkoxy; n = 0, 1). The resin provides the improved dry-etching resistance.
- IT 321378-92-1P 321378-94-3P, 2-Methyl-2-adamantylmethacrylate- $\beta$ -methacryloxy- $\gamma$ -butyrolactone-methacryloxypropyltrimethoxysilane copolymer  
(resist resin for chemical amplified resist composition and method for pattern formation using same)
- RN 321378-92-1 HCAPLUS
- CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with tetrahydro-5-oxo-3-furanyl  
2-methyl-2-propenoate and [1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

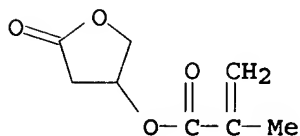
CMF C15 H22 O2



CM 2

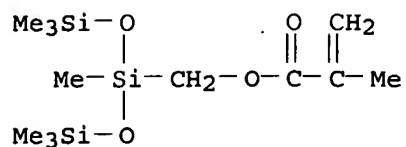
CRN 130224-95-2

CMF C8 H10 O4



CM 3

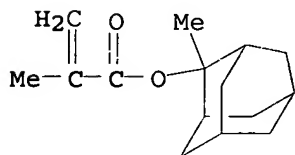
CRN 18166-40-0  
CMF C12 H28 O4 Si3



|    |   |         |
|----|---|---------|
| RN | 321378-94-3   | HCAPLUS |
| CN | 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1 <sup>3,7</sup> ]dec-2-yl ester, polymer with tetrahydro-5-oxo-3-furanyl |         |
|    | 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl   |         |
|    | 2-methyl-2-propenoate (9CI) (CA INDEX NAME)   |         |

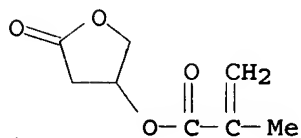
CM 1

CRN 177080-67-0  
CMF C15 H22 O2



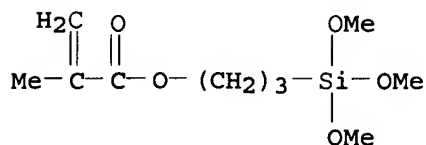
CM 2

CRN 130224-95-2  
CMF C8 H10 O4



CM 3

CRN 2530-85-0  
CMF C10 H20 O5 Si



IC ICM G03F007-039

ICS C08F030-08; C08K005-16; C08K005-36; C08L043-04; G03F007-004;  
G03F007-033; G03F007-075; G03F007-38; H01L021-027  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
IT 321378-87-4P 321378-90-9P, p-tert-Butoxystyrene-p-hydroxystyrene-  
methacryloxypropyltrimethoxysilane copolymer 321378-92-1P  
321378-94-3P, 2-Methyl-2-adamantylmethacrylate- $\beta$ -  
methacryloxy- $\gamma$ -butyrolactone-methacryloxypropyltrimethoxysil  
ane copolymer  
(resist resin for chemical amplified resist composition and method for  
pattern formation using same)

L13 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:337094 HCAPLUS

DOCUMENT NUMBER: 133:74062

TITLE: Macrocyclization of  $\alpha$ -(alkynyloxy)silyl-  
 $\alpha$ -diazooacetates by inter-/intramolecular  
[3+2] cycloaddition reaction sequences

AUTHOR(S): Maas, Gerhard; Gettwert, Volker; Krebs, Fred;  
Schmidtberg, Gunter

CORPORATE SOURCE: Abteilung Organische Chemie I. Universitat  
Ulm, Ulm, 89081, Germany

SOURCE: Chemistry--A European Journal (2000), 6(9),  
1646-1655

CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Thermally induced intra-/intermol. [3+2] cycloaddn. reaction  
sequences of  $\alpha$ -(alkynyloxy)silyl- $\alpha$ -diazooacetates 1  
lead to [3.3](1,4)pyrazolophanes (2)2 and higher cyclooligomers  
thereof [(2)n, n > 2]. In most cases, the cyclodimer was isolated  
by crystallization, while a complete separation of the mixture of the higher  
cyclooligomers was not possible. Solid state structures of  
cyclodimers (2b)2 and (2c)2, cyclotrimer (2b)3, and cyclotetramer  
(2e)4 were determined by x-ray diffraction anal. Field-desorption mass  
spectra were used to characterize the cyclooligomer mixts. The  
relative amts. of the cyclooligomers depend on the substitution  
pattern of the diazo compound The cyclooligomerization reactions  
reported herein demonstrate, for the 1st time, the involvement of  
diazo functions in macrocyclization reactions via 1,3-dipolar  
cycloaddn.

IT 279694-27-8P

(oligomeric)

RN 279694-27-8 HCAPLUS

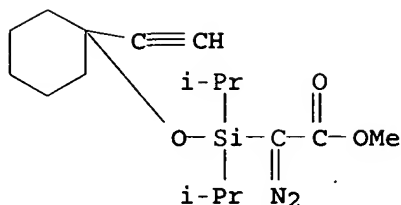
CN Acetic acid, diazo[[1-(ethynylcyclohexyl)oxy]bis(1-  
methylethyl)silyl]-, methyl ester, homopolymer (9CI) (CA INDEX  
NAME)

CM 1

CRN 227805-11-0

CMF C17 H28 N2 O3 Si





CC 29-6 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 35, 75

IT 279694-27-8P 279694-30-3P 279694-38-1P 279694-40-5P  
(oligomeric)

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L13 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:405997 HCAPLUS

DOCUMENT NUMBER: 129:68161

TITLE: Preparation of (meth)acrylic ester random and  
block copolymers

INVENTOR(S): Muramoto, Hiroo; Yamase, Yukio; Nobuhara,  
Yukikazu; Matsumoto, Hitoshi; Shimizu, Yutaka

PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE              |
|--|------|----------|-----------------|-------------------|
| WO 9825977   | A1   | 19980618 | WO 1997-JP4509  | 1997<br>1209      |
| W: KR, SG, US<br>RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,<br>NL, PT, SE |      |          |                 |                   |
| JP 10226714  | A2   | 19980825 | JP 1997-354023  | 1997<br>1209      |
| EP 942018  | A1   | 19990915 | EP 1997-946160  | 1997<br>1209      |
| EP 942018  | B1   | 20030312 |                 |                   |
| R: DE, FR, GB  |      |          |                 |                   |
| KR 2000057447  | A    | 20000915 | KR 1999-705074  | 1999<br>0608      |
| PRIORITY APPLN. INFO.:   |      |          | JP 1996-344555  | A<br>1996<br>1209 |
|  |      |          | JP 1996-344557  | A<br>1996         |

1209

WO 1997-JP4509

W

1997

1209

AB Random or block copolymers of (meth)acrylic ester prepared by anionic polymerization comprise structural units represented by general formulas  $[-CH_2C(R_1)(COOR_3)-]_m$  and  $[-CH_2C(R_2)(COOR_4)-]_n$  and have number-average mol. weight of 1000-50,000, weight-average mol. weight (Mw) to number-average

mol. weight (Mn) ratio (Mw/Mn) of 1.00-1.40, and m to n ratio of 1/9-9/1 (wherein R1 and R2 each independently represents hydrogen or methyl; R3 represents an optionally substituted C7-15 alicyclic group or an alkyl group having the alicyclic group; and R4 represents hydrogen, an optionally substituted C1-12 alkyl, optionally substituted C3-6 alicyclic or heterocyclic group, or substituted silyl group having C1-8 alkyl and/or aryl groups). The copolymers have each a unimodal narrow mol. weight distribution and an essential skeleton having at least one segment with a controlled structure comprising (meth)acrylic ester units each having an organic group containing a bulky alicyclic group. Thus, a block copolymer having Mn = 9100, Mw/Mn = 1.1, and m/n = 25.1/25.3, was prepared by anionic polymerization of 1-adamantyl methacrylate in the presence of sec-butyllithium at -60° for 1 h, followed by continued reaction with t-Bu methacrylate for 1 h.

IT 209072-04-8DP, t-Butyldiemethylsilyl methacrylate-tert-butyl methacrylate-2-methyl-2-adamantyl methacrylate copolymer, hydrolyzed 209072-04-8P, t-Butyldiemethylsilyl methacrylate-tert-butyl methacrylate-2-methyl-2-adamantyl methacrylate copolymer  
(preparation of (meth)acrylic ester random and block copolymers)

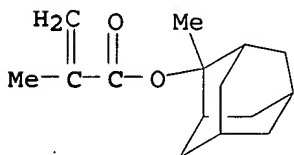
RN 209072-04-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with (1,1-dimethylethyl)dimethylsilyl 2-methyl-2-propenoate and 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate (9CI)  
(CA INDEX NAME)

CM 1

CRN 177080-67-0

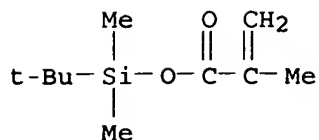
CMF C15 H22 O2



CM 2

CRN 105040-99-1

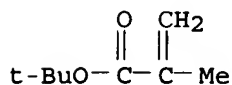
CMF C10 H20 O2 Si



CM 3

CRN 585-07-9

CMF C8 H14 O2



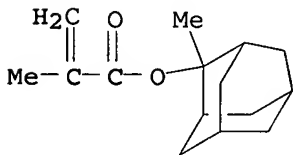
RN 209072-04-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with (1,1-dimethylethyl)dimethylsilyl 2-methyl-2-propenoate and 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate (9CI)  
(CA INDEX NAME)

CM 1

CRN 177080-67-0

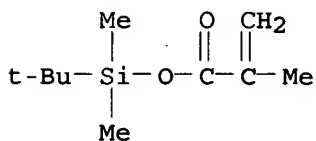
CMF C15 H22 O2



CM 2

CRN 105040-99-1

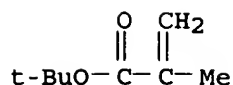
CMF C10 H20 O2 Si



CM 3

CRN 585-07-9

CMF C8 H14 O2



IC ICM C08F220-12  
ICS C08F220-04; C08F008-12; C08F297-02  
CC 35-4 (Chemistry of Synthetic High Polymers)  
IT 209071-97-6DP, 1-Adamantyl methacrylate-tert-butyl methacrylate block copolymer, hydrolyzed 209071-97-6P, 1-Adamantyl methacrylate-tert-butyl methacrylate block copolymer 209071-98-7P, 1-Adamantyl methacrylate-tert-butyl methacrylate-methyl methacrylate block copolymer 209071-99-8DP, tert-Butyl acrylate-isobornyl methacrylate-tetrahydropyranyl methacrylate block copolymer, hydrolyzed 209071-99-8P, tert-Butyl acrylate-isobornyl methacrylate-tetrahydropyranyl methacrylate block copolymer 209072-00-4P, tert-Butyl methacrylate-tetrahydropyranyl methacrylate-tricyclodecanyl methacrylate copolymer 209072-01-5P, tert-Butyl methacrylate-1-adamantylmethyl methacrylate-methyl methacrylate-3-oxocyclohexyl methacrylate block copolymer 209072-02-6P, tert-Butyl methacrylate-2-methyl-2-adamantyl methacrylate block copolymer 209072-03-7P, 1-Adamantyl methacrylate-tert-butyl methacrylate-cyclohexyl methacrylate-methyl acrylate copolymer 209072-04-8DP, t-Butyldiemthylsilyl methacrylate-tert-butyl methacrylate-2-methyl-2-adamantyl methacrylate copolymer, hydrolyzed 209072-04-8P, t-Butyldiemthylsilyl methacrylate-tert-butyl methacrylate-2-methyl-2-adamantyl methacrylate copolymer (preparation of (meth)acrylic ester random and block copolymers)  
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 30 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:509819 HCAPLUS

DOCUMENT NUMBER: 121:109819

TITLE: Novel Poly(silyl enol ether)s via Radical Ring-Opening Polymerization and Their Conversion to Polyketones

AUTHOR(S): Mizukami, Shigeo; Kihara, Nobuhiro; Endo, Takeshi

CORPORATE SOURCE: Research Laboratory of Resources Utilization, Tokyo Institute of Technology, Yokohama, 227, Japan

SOURCE: Journal of the American Chemical Society (1994), 116(14), 6453-4  
CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

AB (1-Trimethylsiloxyvinyl)cyclopropane, 1-phenyl-2-(1-trimethylsiloxyvinyl)cyclopropane, and Et 2-trimethylsiloxy-2-vinylcyclopropane carboxylate undergo selective radical ring-opening polymerization to give polymers having silyl enol ether groups in the main chain. Acid-catalyzed hydrolysis of the polymers gave the corresponding polyketones.

IT 156907-77-6P  
(preparation and hydrolysis of)

RN 156907-77-6 HCAPLUS

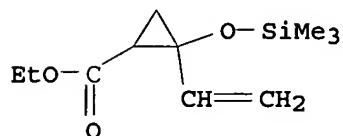
CN Cyclopropanecarboxylic acid, 2-ethenyl-2-[(trimethylsilyl)oxy]-,

ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 156907-76-5

CMF C11 H20 O3 Si

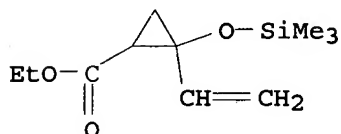


IT 156907-77-6DP, hydrolyzed  
(with polyketone structure, preparation and characterization of)  
RN 156907-77-6 HCAPLUS  
CN Cyclopropanecarboxylic acid, 2-ethenyl-2-[(trimethylsilyl)oxy]-,  
ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 156907-76-5

CMF C11 H20 O3 Si



CC 35-7 (Chemistry of Synthetic High Polymers)  
IT 156907-73-2P 156907-75-4P 156907-77-6P  
(preparation and hydrolysis of)  
IT 100-52-7DP, Benzaldehyde, reaction products with  
(trimethylsiloxyvinyl)cyclopropane homopolymer 156907-73-2DP,  
hydrolyzed 156907-75-4DP, hydrolyzed 156907-77-6DP,  
hydrolyzed  
(with polyketone structure, preparation and characterization of)

L13 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:628128 HCAPLUS

DOCUMENT NUMBER: 119:228128

TITLE: Chemically, weather- and scratch-resistant  
crosslinkable resin compositions for coatings

INVENTOR(S): Iwamura, Goro; Yamamura, Kazuo; Oooka,  
Masataka; Takezawa, Shoichiro

PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE  | APPLICATION NO. | DATE  |
|------------|------|-------|-----------------|-------|
| -----      | ---- | ----- | -----           | ----- |

JP 05059289

A2

19930309

JP 1991-218632

1991

0829

PRIORITY APPLN. INFO.:

JP 1991-218632

1991

0829

AB The compns. comprise (A) vinyl polymers bearing protective hemiacetal ester and/or hemiketal ester groups, (B) compds. or polymers bearing both epoxy and hydrolyzable silyl groups, and optionally curing catalysts. A copolymer of Bu acrylate (I), Bu methacrylate (II), 1-(isobutoxy)ethyl methacrylate, and styrene as A component was crosslinked with a I-II-glycidyl methacrylate-(methacryloyloxypropyl)trimethoxysilane-styrene copolymer at weight ratio 1000:360 to give a coating film with the desired properties.

IT 150958-27-3

(coatings, chemical, scratch- and weather-resistant)

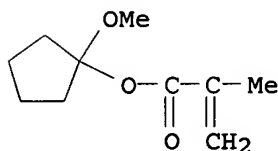
RN 150958-27-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with butyl 2-propenoate, ethenylbenzene, 1-methoxycyclopentyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 143556-55-2

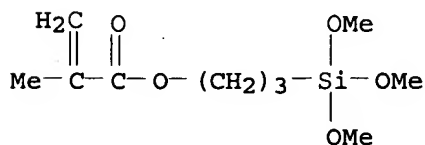
CMF C10 H16 O3



CM 2

CRN 2530-85-0

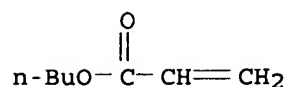
CMF C10 H20 O5 Si



CM 3

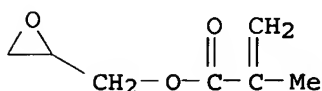
CRN 141-32-2

CMF C7 H12 O2



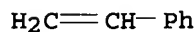
CM 4

CRN 106-91-2  
CMF C7 H10 O3



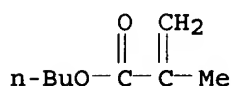
CM 5

CRN 100-42-5  
CMF C8 H8



CM 6

CRN 97-88-1  
CMF C8 H14 O2



IC ICM C08L101-06

ICS C08K005-54; C08L101-10

CC 42-10 (Coatings, Inks, and Related Products)

IT 150958-23-9 150958-24-0 150958-25-1 150958-26-2

150958-27-3 150958-28-4 150958-29-5 150958-30-8

(coatings, chemical, scratch- and weather-resistant)

L13 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:605572 HCAPLUS

DOCUMENT NUMBER: 119:205572

TITLE: Thermosetting resin compositions for  
high-solids coating materials with good  
storability

INVENTOR(S): Iwamura, Goro; Takezawa, Shoichiro; Yamamura,  
Kazuo; Oooka, Masataka

PATENT ASSIGNEE(S): Dainippon Ink &amp; Chemicals, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

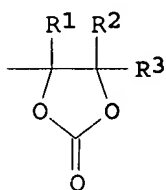
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE         |
|-------------|------|----------|-----------------|--------------|
| JP 05078551 | A2   | 19930330 | JP 1991-237989  | 1991<br>0918 |
| JP 3067307  | B2   | 20000717 | JP 1991-237989  | 1991<br>0918 |

PRIORITY APPLN. INFO.:

GI



AB The title compns. providing high-gloss coatings with good impact, acid, alkali, scratch, and weather resistance contain (A) vinyl copolymers containing I group (R1-3 = H, C1-4 alkyl) and (B) compds. having  $\geq 2$  active ester groups. To 500 parts xylene and 300 parts BuOH at 120° were added over 5 h a mixture of 2,3-carbonatopropyl methacrylate 300, Me methacrylate 200, styrene 200, and Bu methacrylate 300 parts and also a mixture of xylene 200, AIBN 10, and tert-butylperoxy 2-ethylhexanoate 20 parts, then further polymerized at the same temperature for 7 h to give a 50.4%-solids resin (II) with Gardner viscosity H-I and Mn 11,000. 1-Methoxy-1-methacryloyloxycyclobutane 328, styrene 300, and Bu methacrylate 372 parts were similarly polymerized to give a 50.2%-solids resin (III). A typical composition comprised II 1000, III 1000, trifluoromethanesulfonic acid 2.5, and trimethylbenzylammonium hydroxide 2.5 parts.

IT 150854-31-2 150854-33-4

(coatings, with good impact, acid, alkali, scratch, and weather resistance)

RN 150854-31-2 HCAPLUS

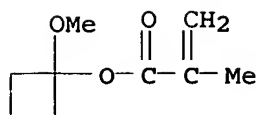
CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with butyl 2-propenoate, ethenylbenzene, 1-methoxycyclobutyl 2-methyl-2-propenoate, (2-oxo-1,3-dioxolan-4-yl)methyl 2-methyl-2-propenoate and trimethylsilyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 150854-27-6

CMF C9 H14 O3

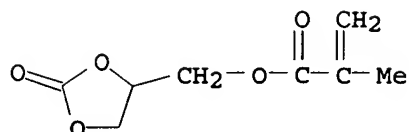




CM 2

CRN 13818-44-5

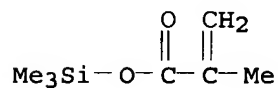
CMF C8 H10 O5



CM 3

CRN 13688-56-7

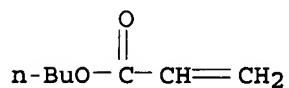
CMF C7 H14 O2 Si



CM 4

CRN 141-32-2

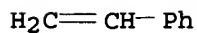
CMF C7 H12 O2



CM 5

CRN 100-42-5

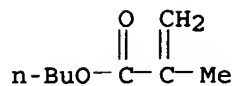
CMF C8 H8



CM 6

CRN 97-88-1

CMF C8 H14 O2



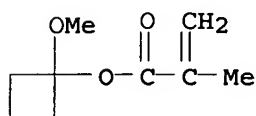
RN 150854-33-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with butyl  
 2-propenoate, ethenylbenzene, 1-methoxycyclobutyl  
 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate,  
 (2-oxo-1,3-dioxolan-4-yl)methyl 2-methyl-2-propenoate and  
 trimethylsilyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 150854-27-6

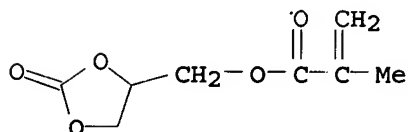
CMF C9 H14 O3



CM 2

CRN 13818-44-5

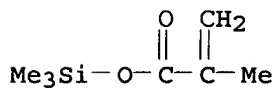
CMF C8 H10 O5



CM 3

CRN 13688-56-7

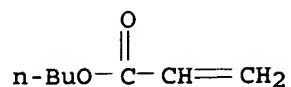
CMF C7 H14 O2 Si



CM 4

CRN 141-32-2

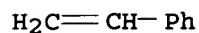
CMF C7 H12 O2



CM 5

CRN 100-42-5

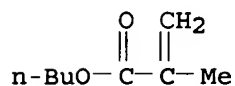
CMF C8 H8



CM 6

CRN 97-88-1

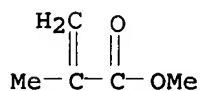
CMF C8 H14 O2



CM 7

CRN 80-62-6

CMF C5 H8 O2



IC ICM C08L057-10

ICS C08K005-10

CC 42-10 (Coatings, Inks, and Related Products)

IT 150854-28-7 150854-29-8 150854-30-1 150854-31-2

150854-32-3 150854-33-4

(coatings, with good impact, acid, alkali, scratch, and weather resistance)

L13 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:202104 HCAPLUS

DOCUMENT NUMBER: 118:202104

TITLE: Manufacture of electrophotographic lithographic printing plate

INVENTOR(S): Kato, Eiichi; Ishii, Kazuo

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE         |
|------------------------|------|----------|-----------------|--------------|
| JP 04204552            | A2   | 19920724 | JP 1990-330629  | 1990<br>1130 |
| PRIORITY APPLN. INFO.: |      |          | JP 1990-330629  | 1990<br>1130 |

AB A lithog. printing plate, comprising a conductive support,  $\geq 1$  photoconductor layer, and an uppermost surface layer containing a nonaq. resin particle dispersion, is manufactured by effecting imagewise exposure and development of the electrophotog. photoreceptor to form a toner image and desensitizing the non-image sections of the photoconductor layer by a solution which contains a hydrophilic compound containing a substituent with Pearson's nucleophilic constant  $\geq 5.5$ . The non-aqueous resin particles are copolymer resin particles and are obtained by effecting dispersion polymerization of (a) a monofunctional polymer which contains formyl and/or  $R1OCHOR2$  [ $R1,2$  = hydrocarbon, organic residue from ring formation by  $R1$  and  $R2$ ] and is soluble in an non-aqueous solvent but being insol. upon polymerization with (b) another monofunctional polymer which is composed of a repeating unit containing Si- and/or F-containing substituent and is terminated with  $a1HC:Ca2V0-$  [ $V0$  = O,  $COO<OCO$ ,  $CH2OCO$ ,  $CH2COO$ ,  $SO2$ ,  $CONR3$ ,  $SO2NR3$ ,  $C6H4$ ,  $CONHCOO$ ,  $CONHCONH$ ;  $R3$  = H, C1-18 hydrocarbon;  $a1,2$  = H, halo, cyano, hydrocarbon,  $COOR4$ ,  $COOR4$  via hydrocabon; and  $R4$  = H, hydrocarbon] at only one end of the backbone chain.

IT 146717-70-6P

(preparation and use of, electrophotog. lithog. printing plate from, manufacture of)

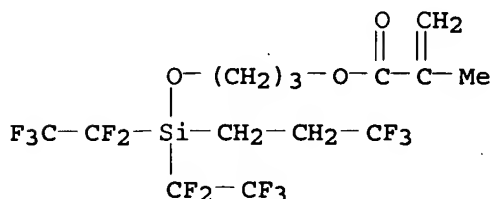
RN 146717-70-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[[bis(pentafluoroethyl)(3,3,3-trifluoropropyl)silyl]oxy]propyl ester, polymer with N-[2-(4-methoxy-4-methyl-2-oxetanyl)ethyl]-2-propenamide, graft (9CI) (CA INDEX NAME)

CM 1

CRN 146717-69-3

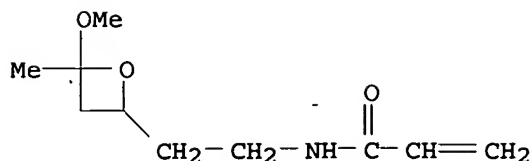
CMF C14 H15 F13 O3 Si



CM 2

CRN 146717-68-2

CMF C10 H17 N O3

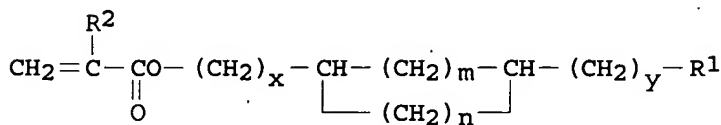


IC ICM G03G013-28  
ICS G03G005-147  
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
IT 146615-72-7P 146615-74-9P 146615-76-1P 146615-78-3P  
146615-80-7P 146615-81-8P 146615-82-9P 146615-85-2P  
146717-62-6P 146717-63-7P 146717-64-8P 146717-66-0P  
146717-67-1P **146717-70-6P**  
(preparation and use of, electrophotog. lithog. printing plate from, manufacture of)

L13 ANSWER 34 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1991:520107 HCAPLUS  
DOCUMENT NUMBER: 115:120107  
TITLE: Manufacture of contact lenses from fluorinated copolymers  
INVENTOR(S): Tanaka, Masahide; Koreishi, Hiroshi; Kuwabara, Masahiro; Kikuta, Yoshinori; Mitsuyama, Hideo  
PATENT ASSIGNEE(S): Mitsui Petrochemical Industries, Ltd., Japan; Shido Contact Lens Kenkyusho K. K.  
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE         |
|------------------------|------|----------|-----------------|--------------|
| JP 03012411            | A2   | 19910121 | JP 1989-146234  | 1989<br>0608 |
| PRIORITY APPLN. INFO.: |      |          | JP 1989-146234  | 1989<br>0608 |

GI



I

AB Extended-wear contact lenses with improved O permeability and biocompatibility are manufactured with a composition containing siloxanyl

(meth)acrylate >10, meth(acrylate) monomer <30, and cyclic (meth)acrylic ester >1 weight %. The cyclic (meth)acrylic monomer has a formula of I, where R1 is H, OH, or OCOCR2:CH2; R2 is H or Me; x, y = 0-30; m = 0-10; n = 1-12; m + n = 1-22. Thus, siloxanyl methacrylate 93, Me methacrylate 20, trifluoroethyl methacrylate 35, and 1-hexafluoropropyl-1-cyclohexanol 3-methacrylate 3 parts were reacted in the presence of azobisisobutyronitrile and molded.

IT 135803-17-7P 135803-18-8P

(preparation of, for contact lenses with improved oxygen permeability)

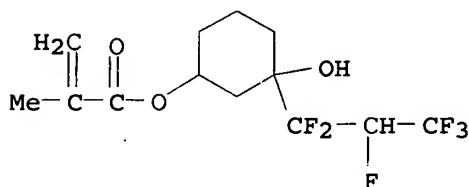
RN 135803-17-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(1,1,2,3,3,3-hexafluoropropyl)-3-hydroxycyclohexyl ester, polymer with methyl 2-methyl-2-propenoate, 2,2,2-trifluoroethyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 134738-94-6

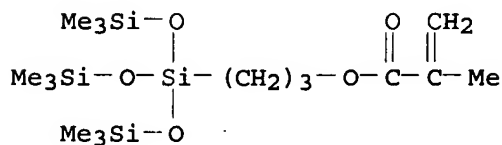
CMF C13 H16 F6 O3



CM 2

CRN 17096-07-0

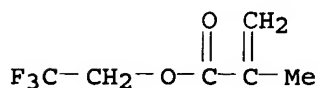
CMF C16 H38 O5 Si4



CM 3

CRN 352-87-4

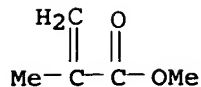
CMF C6 H7 F3 O2



CM 4

CRN 80-62-6

CMF C5 H8 O2



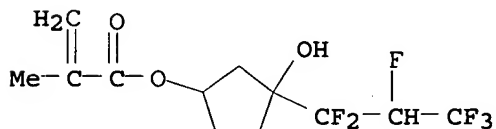
RN 135803-18-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(1,1,2,3,3,3-hexafluoropropyl)-3-hydroxycyclopentyl ester, polymer with methyl 2-methyl-2-propenoate, 2,2,2-trifluoroethyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 135390-72-6

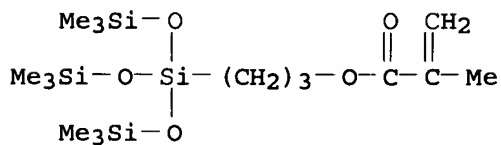
CMF C12 H14 F6 O3



CM 2

CRN 17096-07-0

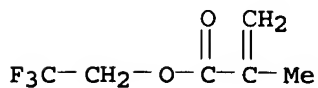
CMF C16 H38 O5 Si4



CM 3

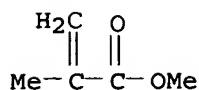
CRN 352-87-4

CMF C6 H7 F3 O2



CM 4

CRN 80-62-6  
CMF C5 H8 O2

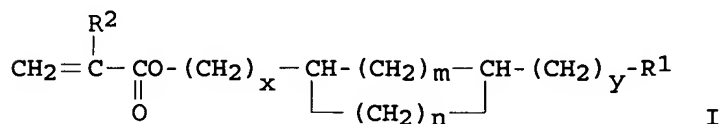


IC ICM C08F230-08  
ICS C08F220-22; C08F299-08; G02C007-04  
ICA C08F220-12  
CC 63-7 (Pharmaceuticals)  
Section cross-reference(s): 38  
IT 135803-17-7P 135803-18-8P 135834-30-9P  
(preparation of, for contact lenses with improved oxygen permeability)

L13 ANSWER 35 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1991:499375 HCAPLUS  
DOCUMENT NUMBER: 115:99375  
TITLE: Manufacture of contact lenses from fluorinated copolymers  
INVENTOR(S): Tanaka, Masahide; Koreishi, Hiroshi; Kuwabara, Masahiro; Kikuta, Yoshinori; Mitsuyama, Hideo  
PATENT ASSIGNEE(S): Mitsui Petrochemical Industries, Ltd., Japan; Shido Contact Lens Kenkyusho K. K.  
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE         |
|------------------------|------|----------|-----------------|--------------|
| JP 03009909            | A2   | 19910117 | JP 1989-146233  | 1989<br>0608 |
| PRIORITY APPLN. INFO.: |      |          | JP 1989-146233  | 1989<br>0608 |

GI



AB A long-lasting contact lens with improved O permeation and biocompatibility is manufactured with a composition containing siloxanyl (meth)acrylate > 10, (meth)acrylate monomer < 30, fluorinated styrene monomer > 3, and cyclic (meth)acrylate ester monomer > 1 weight%. The cyclic (meth)acrylate ester has a formula of I, where



R1 is H, OH or OCOC(R2)CH<sub>2</sub>; R2 is H, Me; x, y is 0-30; m is 1-10; n is 1-12; and m + n = 1-22. Thus, siloxanyl methacrylate 90, methacrylic acid 8, pentafluorostyrene 10 and 1-hexafluoropropyl-1-cyclohexanol 3-methacrylate 3 weight parts were reacted in the presence of azobisisobutyronitrile, molded, and made into lenses.

IT 135390-70-4

(contact lens manufacture with, oxygen permeation in relation to)

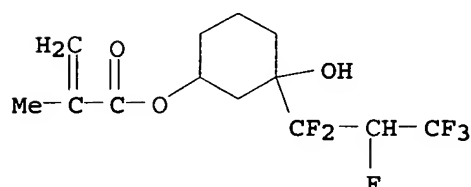
RN 135390-70-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 3-(1,1,2,3,3,3-hexafluoropropyl)-3-hydroxycyclohexyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 134738-94-6

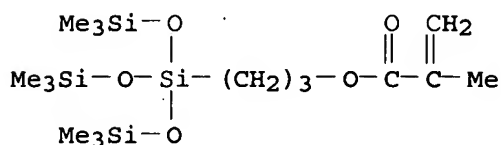
CMF C13 H16 F6 O3



CM 2

CRN 17096-07-0

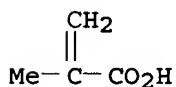
CMF C16 H38 O5 Si4



CM 3

CRN 79-41-4

CMF C4 H6 O2



IT 135390-71-5P 135390-73-7P

(preparation of, for manufacturing contact lenses with improved oxygen permeation)

RN 135390-71-5 HCAPLUS

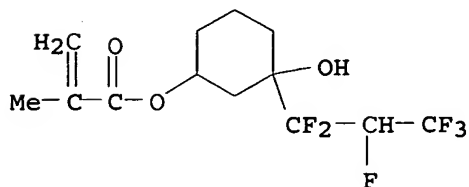
CN 2-Propenoic acid, 2-methyl-, polymer with ethenylpentafluorobenzene, 3-(1,1,2,3,3,3-hexafluoropropyl)-3-

hydroxycyclohexyl 2-methyl-2-propenoate, methyl  
2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-  
bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate  
(9CI) (CA INDEX NAME)

CM 1

CRN 134738-94-6

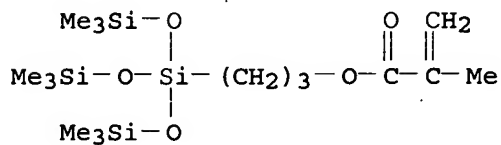
CMF C13 H16 F6 O3



CM 2

CRN 17096-07-0

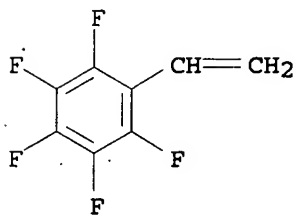
CMF C16 H38 O5 Si4



CM 3

CRN 653-34-9

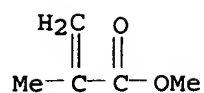
CMF C8 H3 F5



CM 4

CRN 80-62-6

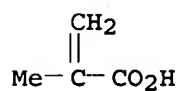
CMF C5 H8 O2



CM 5

CRN 79-41-4

CMF C4 H6 O2



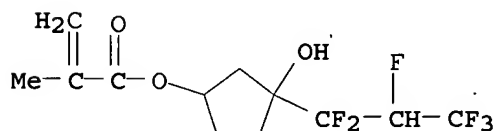
RN 135390-73-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with  
ethenylpentafluorobenzene, 3-(1,1,2,3,3,3-hexafluoropropyl)-3-  
hydroxycyclopentyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-  
1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl  
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 135390-72-6

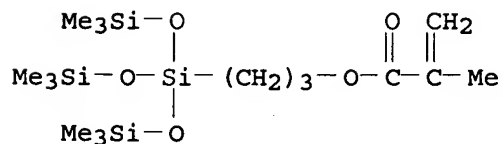
CMF C12 H14 F6 O3



CM 2

CRN 17096-07-0

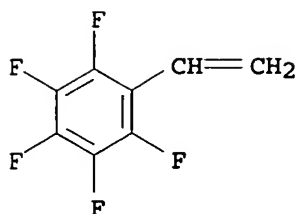
CMF C16 H38 O5 Si4



CM 3

CRN 653-34-9

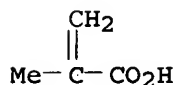
CMF C8 H3 F5



CM 4

CRN 79-41-4

CMF C4 H6 O2



IC ICM C08F230-08

ICS C08F220-22; C08F299-08; C08L027-12; G02C007-04

ICA C08F220-12

CC 63-7 (Pharmaceuticals)

Section cross-reference(s): 38

IT 135390-70-4

(contact lens manufacture with, oxygen permeation in relation to)

IT 134926-01-5P 135390-71-5P 135390-73-7P

135390-75-9P

(preparation of, for manufacturing contact lenses with improved oxygen permeation)

L13 ANSWER 36 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:448915 HCAPLUS

DOCUMENT NUMBER: 115:48915

TITLE: Preparation of alicyclic alcohols and their derivatives for copolymers useful as medical devices

INVENTOR(S): Tanaka, Masahide; Kuwabara, Masahiro

PATENT ASSIGNEE(S): Mitsui Petrochemical Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE         |
|-------------|------|----------|-----------------|--------------|
| JP 03011025 | A2   | 19910118 | JP 1989-146191  | 1989<br>0608 |

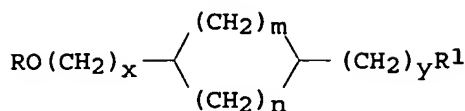
PRIORITY APPLN. INFO.:

JP 1989-146191

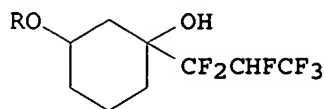
1989  
0608

OTHER SOURCE(S):  
GI

MARPAT 115:48915



I



II

AB The title alcs. and their (meth)acrylates [I; R = H, (meth)acryloyl; R<sup>1</sup> = H, OH, (meth)acryloyloxy; m = 0-10; n = 1-12; x, y = 0-30], useful as monomer for copolymers in such oxygen-permeable medical devices as contact lens, are prepared  
CF<sub>3</sub>CF:CF<sub>2</sub> was pressurized into a solution of 1,3-cyclohexanediol and (Me<sub>3</sub>C)2O<sub>2</sub> (radical initiator) in PhCl with heating at 120° to give 69% cyclohexanediol II (R = H), which (77 g) was treated with 90 g H<sub>2</sub>C:CMeCOCl and Et<sub>2</sub>N in THF under N to give 92 g monoester (II; R = methacryloyl) (III). A copolymer consisting of 90:40:5 H<sub>2</sub>C:CMe<sub>2</sub>CO<sub>2</sub>(CH<sub>2</sub>)<sub>3</sub>Si(OSiMe<sub>3</sub>)<sub>3</sub>, Me methacrylate, and III showed a DK value (oxygen-permeability coefficient) of 50.6, vs 12.0 with a copolymer containing ethylene glycol dimethacrylate instead of III.

IT 134738-95-7P

(preparation of, for oxygen-permeable contact lenses)

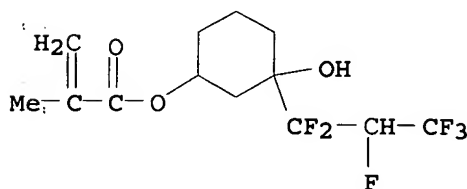
RN 134738-95-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(1,1,2,3,3,3-hexafluoropropyl)-3-hydroxycyclohexyl ester, polymer with methyl 2-methyl-2-propenoate and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 134738-94-6

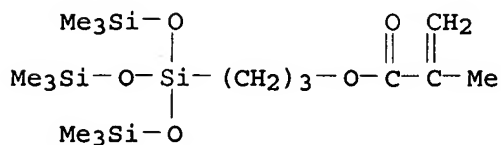
CMF C13 H16 F6 O3



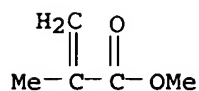
CM 2

CRN 17096-07-0

CMF C16 H38 O5 Si4



CM 3

CRN 80-62-6  
CMF C5 H8 O2

IC ICM C07C031-44  
ICS C07C029-44; G02C007-04  
ICA C08F020-22  
CC 24-6 (Alicyclic Compounds)  
Section cross-reference(s): 36, 63  
IT 134738-95-7P  
(preparation of, for oxygen-permeable contact lenses)

L13 ANSWER 37 OF 37 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1990:601422 HCAPLUS  
DOCUMENT NUMBER: 113:201422  
TITLE: Electrophotographic lithographic plate  
materials containing photoconductive layers  
INVENTOR(S): Kato, Eiichi; Ishii, Kazuo  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE         |
|------------------------|------|----------|-----------------|--------------|
| JP 02129645            | A2   | 19900517 | JP 1988-282320  | 1988<br>1110 |
| JP 2557697             | B2   | 19961127 |                 |              |
| PRIORITY APPLN. INFO.: |      |          | JP 1988-282320  | 1988<br>1110 |

AB In the title plate material having at least on an elec. conductive support a photoconductive layer containing a photoconductive compound and a binder resin for use in making a printing plate by imagewise exposure of the plate material, forming a toner image, and removing the nonimage area of the photoconductive layer saving the toner image area, more than 1 functional group contained in  $\geq 1$  polymer contained in the binder resin of the photoconductive layer produces  $\geq 1$  OH group and  $\geq 1$  CO<sub>2</sub>H group by decomposition

IT 130206-77-8  
(binders, electrophotog. lithog. plate materials with photoconductive layers containing)

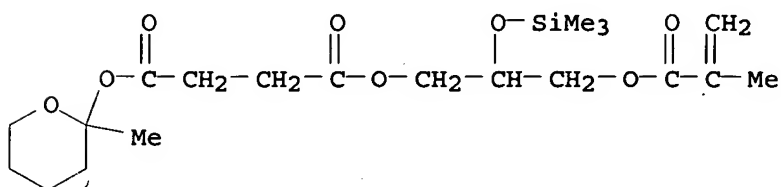
RN 130206-77-8 HCAPLUS  
CN Butanedioic acid, 3-[(2-methyl-1-oxo-2-propenyl)oxy]-2-

[(trimethylsilyl)oxy]propyl tetrahydro-2-methyl-2H-pyran-2-yl ester, polymer with (2-chlorophenyl)methyl 2-methyl-2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 130206-76-7

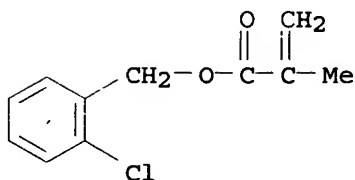
CMF C20 H34 O8 Si



CM 2

CRN 46319-98-6

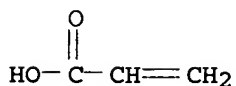
CMF C11 H11 Cl O2



CM 3

CRN 79-10-7

CMF C3 H4 O2



IC ICM G03G005-05

ICS G03G005-06; G03G013-26

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 130206-77-8 130206-80-3 130224-75-8 130224-76-9  
130224-96-3 130224-98-5 130225-00-2 130225-02-4  
130225-03-5 130225-05-7 130225-06-8 130250-14-5  
130277-46-2

(binders, electrophotog. lithog. plate materials with photoconductive layers containing)